

KELOC

# Exploded Lock Views

AND SERVICE INFORMATION  
ON KEY-IN-THE-KNOB LOCKS

# VOL. 1

PUBLISHED BY THE LOCKSMITH LEDGER



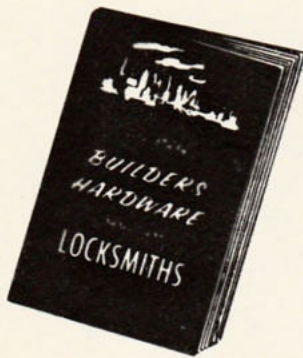
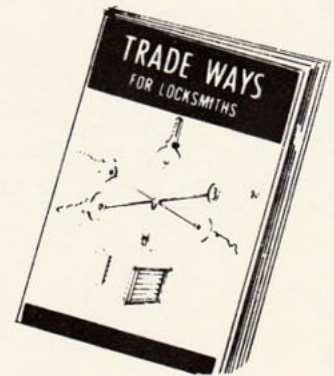
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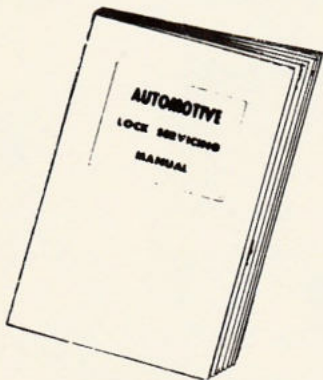
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# LOCKSMITH LEDGER

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EXPLODED LOCK VIEWS  
and SERVICE INFORMATION  
on KEY-IN-THE-KNOB LOCKS

The purpose of this book is to bring all of the current technical information on the modern key in the knob locks under one cover for quick and easy reference. It will be found extremely helpful as a manual and guide by those who are called upon to service these types of locks.

Since manufacturers are constantly revising and improving their locks, the reader may find occasional variations between the illustrations and actual locks he may be working upon. These differences, however, are minor and will not detract from the value of this book because the basic principles are unchanged.

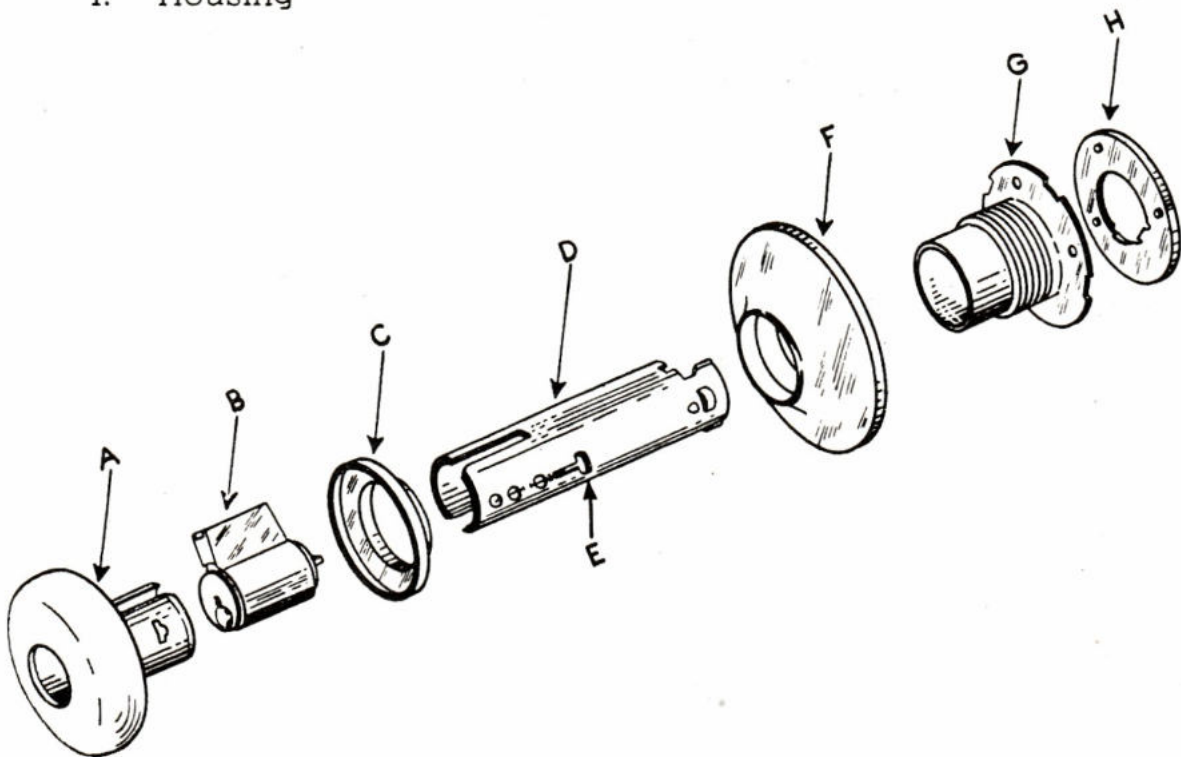
**KeLoc**  
P. O. Box 386  
Colfax, Wa. 99111  
(509) 397-3819 Evenings

Published By  
**Nickerson & Collins Publishing Co.**  
Locksmith Ledger Div.  
2720 Des Plaines Ave.  
Des Plaines, Ill. 60018  
Copyright, 1970

# Arrow No. 620

manufactured by the Arrow Lock Corporation, Brooklyn 11, New York

- A. Outside Knob
- B. Cylinder
- C. Knob Ferrule
- D. Outside Spindle
- E. Knob Retaining Spring (depress this spring with a thin screwdriver and pull off knob)
- F. Rose
- G. Knob Stanchion (Note threaded part. Rose is also threaded so that lock can be adjusted to fit various thicknesses of doors)
- H. Spindle Retainer Plate
- I. Housing





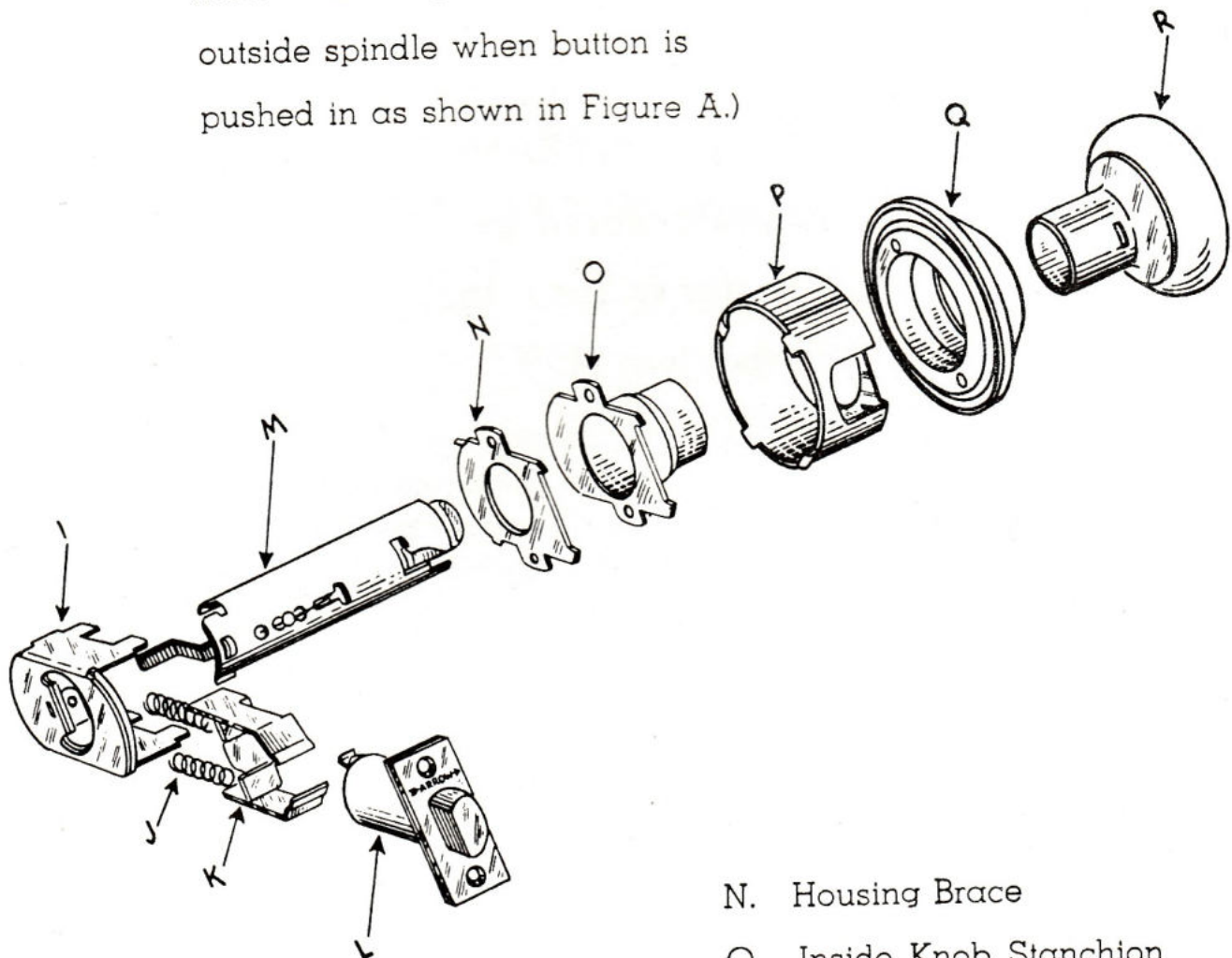
J. Latch Springs

K. Latch Retractor

L. Latch Body

M. Inside Spindle and Button

(Note offset tailpiece. This piece locks outside spindle when button is pushed in as shown in Figure A.)



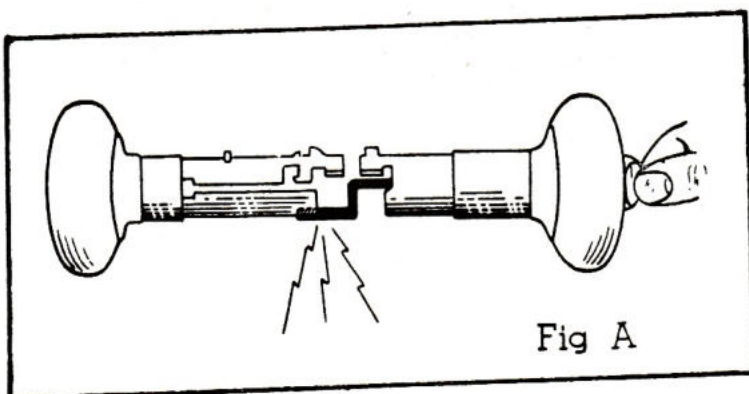
N. Housing Brace

O. Inside Knob Stanchion

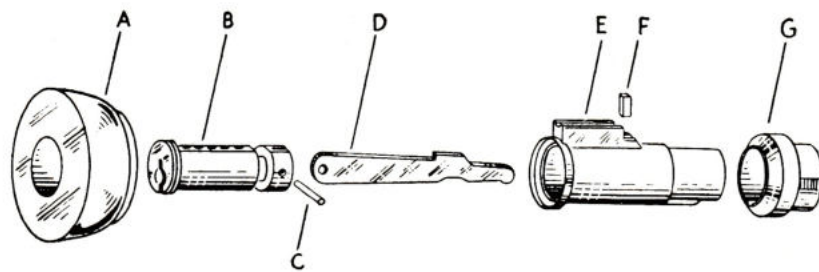
P. Housing Cover

Q. Inside Rose

R. Inside Knob







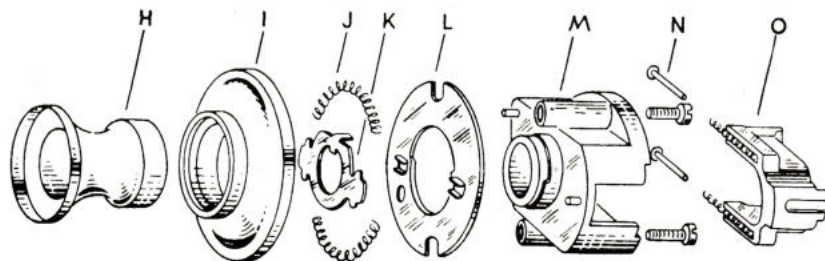
## REDDI - MOUNT ENTRANCE LOCK

Manufactured by

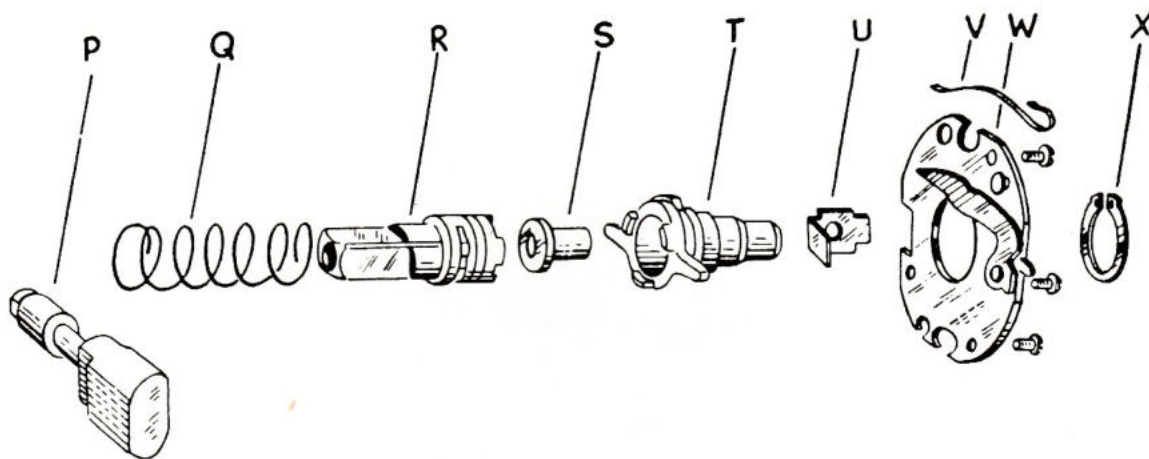
J. Chesler & Sons, Inc.

Brooklyn, N. Y.

- |  |  |
|--|--|
| A. Outside Knob  | N. Spring Guides   |
| B. Cylinder Plug                                       | O. Latch Retractor   |
| C. Connecting Bar Retainer Pin                         | P. Latchbolt   |
| D. Connecting Bar                                      | Q. Spring  |
| E. Cylinder Housing                                    | R. Free Spinning Coupling  |
| F. Plug Retainer                                       | S. Pusher  |
| G. Cylinder Centering Ring                             | T. Hub   |
| H. Ferrule   | U. Retainer  |
| I. Outside Rose  | V. Spring  |
| J. Return Springs                                      | W. Cover Plate (pivoted lever holds hub in place and acts as a return-to-neutral cam). |
| K. Cam   | X. Tru-Arc Retainer  |
| L. Spring Chamber Cover (Holds J. & K. inside Rose I.) | Y. Spindle   |
| M. Housing Body  | Z. Knob Assembly   |







## SERVICE NOTES ON REDDI-MOUNT LOCK

The cylinder cannot be removed without destroying the outside knob. Keys can be made by the number appearing on the connecting bar D (see Figure I). The numbers represent the actual depths of the cuts.

When removing this lock from the door, remove the front plate and pull the lock, latch bolt and all though the front (see Figure III). Of course, remove the inside assembly first.

This lock is adjustable for various door thicknesses by removing the small knob-like sections at either end of the spindle. Figure II shows the arrangement for each popular thickness.

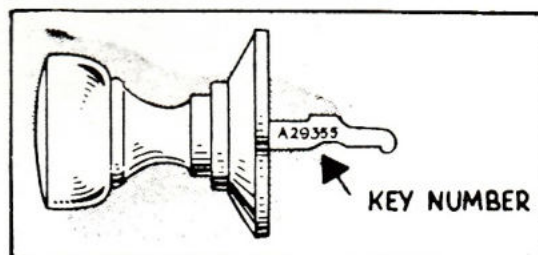


Fig. I

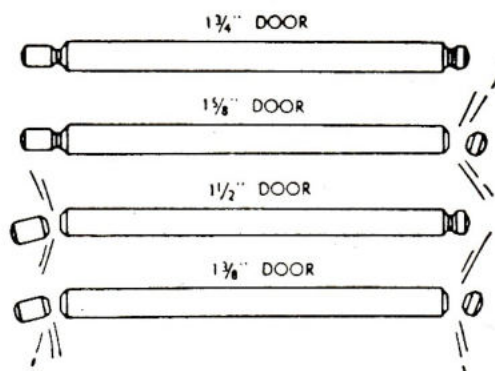


Fig. II

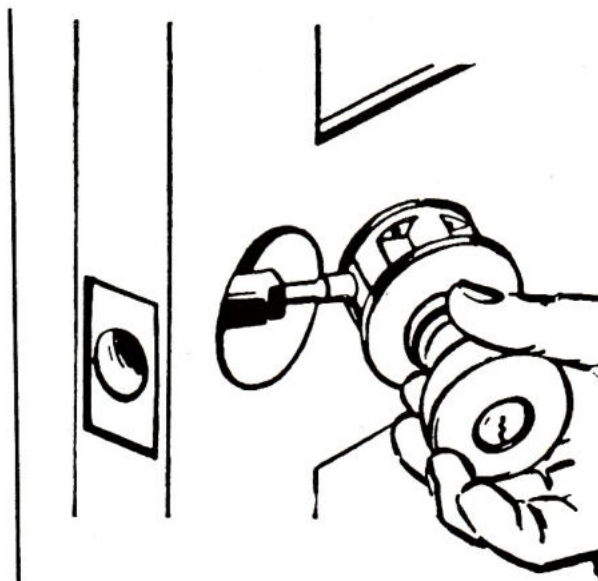
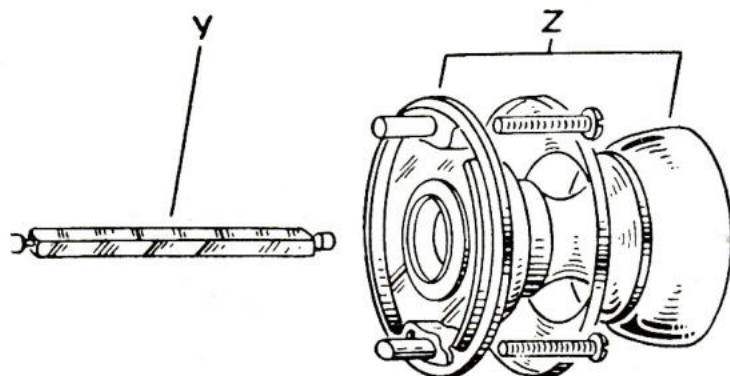
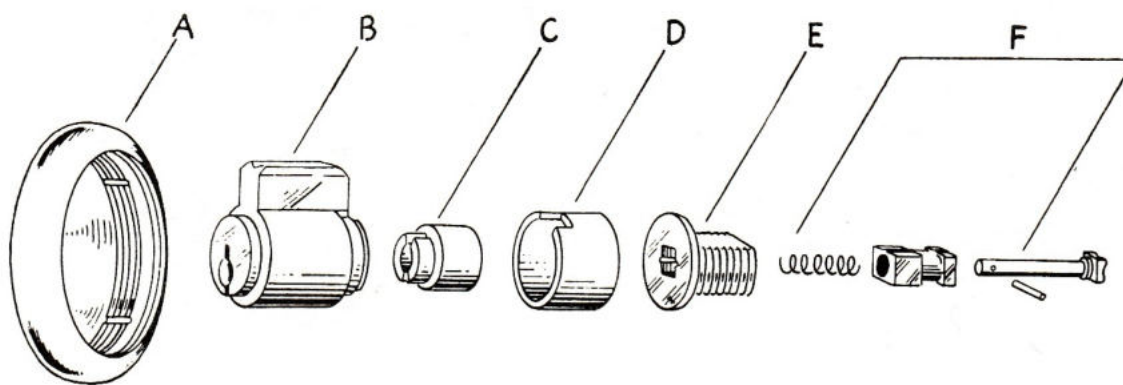


Fig. III

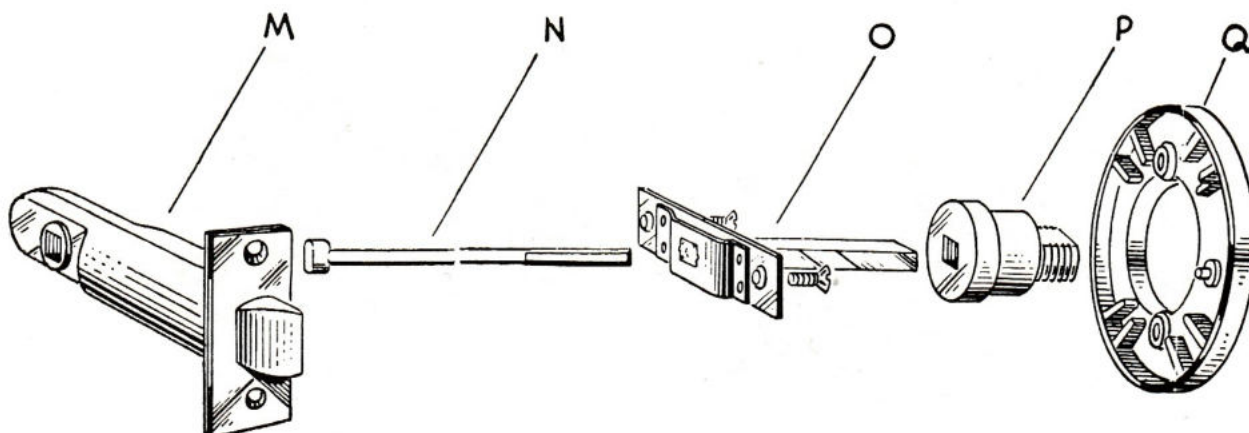


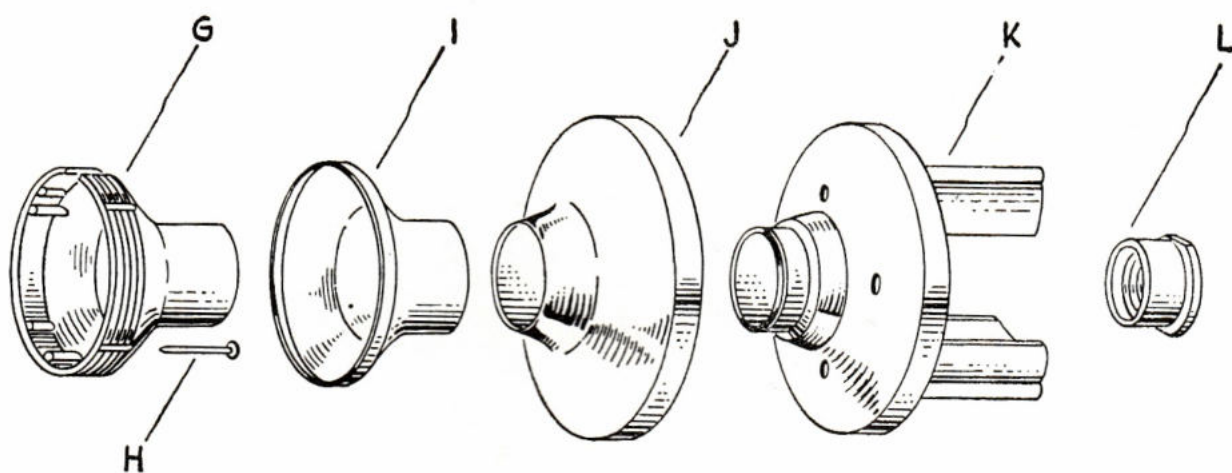


## CLINTON KEY IN KNOB MODEL K320

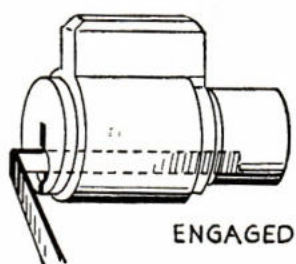
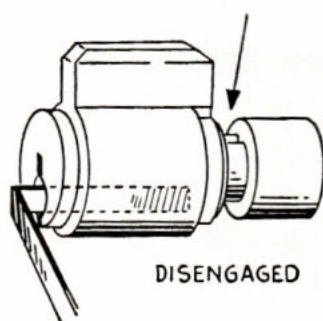
Manufactured by Clinton Lock Co., Clinton, Iowa

- |                              |                              |
|------------------------------|------------------------------|
| A.—Outside Knob Shell        | M.—Latchbolt Assembly        |
| B.—Cylinder                  | N.—Turn Button Stem          |
| C.—Plug Cam                  | O.—Spindle and Locking Plate |
| D.—Cylinder Centering Sleeve | P.—Spindle Hub               |
| E.—Spindle Hub               | Q.—Rose Plate                |
| F.—Locking Stem Assembly     | R.—Rose Plate Cover          |
| G.—Knob Shank                | S.—Rose Screws               |
| H.—Anti-Turn Pin             | T.—Knob Shank Cover          |
| I.—Knob Shank Cover          | U.—Knob Shank                |
| J.—Outside Rose Cover        | V.—Hub Retainer              |
| K.—Outside Rose and Bracket  | W.—Inside Knob               |
| L.—Retainer                  | X.—Turn Button               |



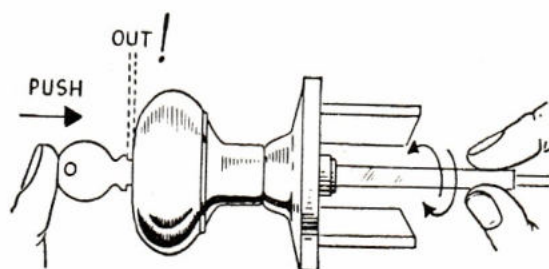


### SERVICE NOTES

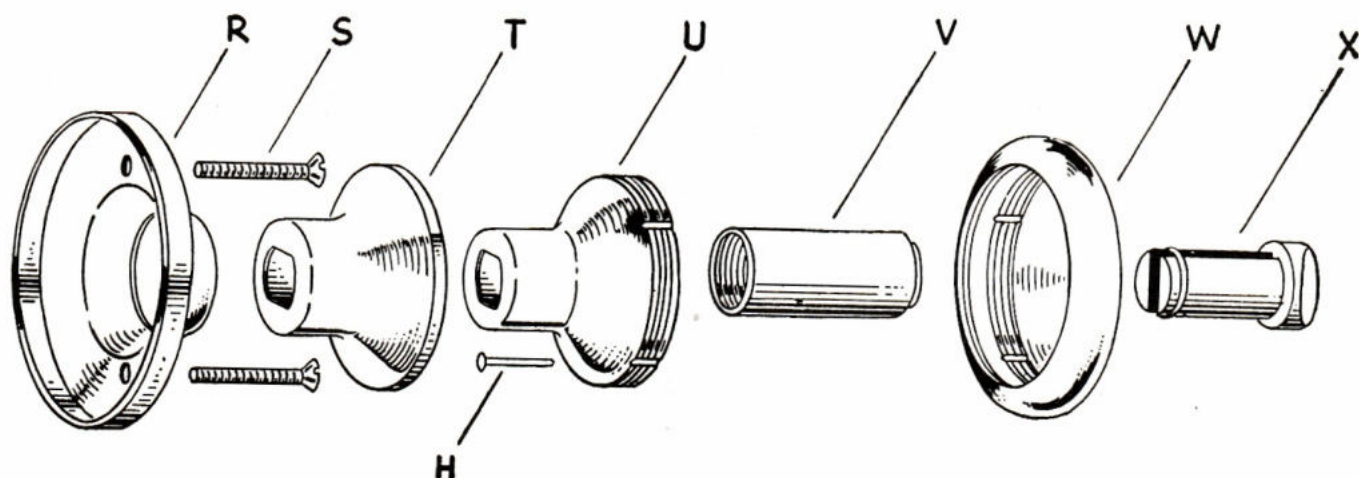


A. The cam (C) revolves freely until the key is inserted all

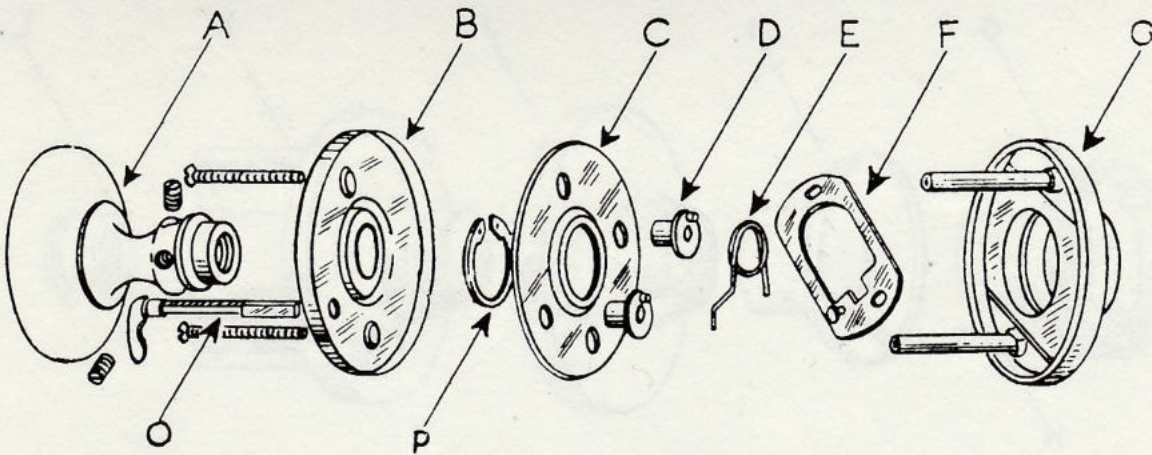
the way! When picking, use a wrench with a long leg to reach back to the cam!



B. When assembling, be sure that correct key goes all the way into the plug. If not, twist the spindle to line up the cam slot. Key will then enter plug all the way to shoulder.





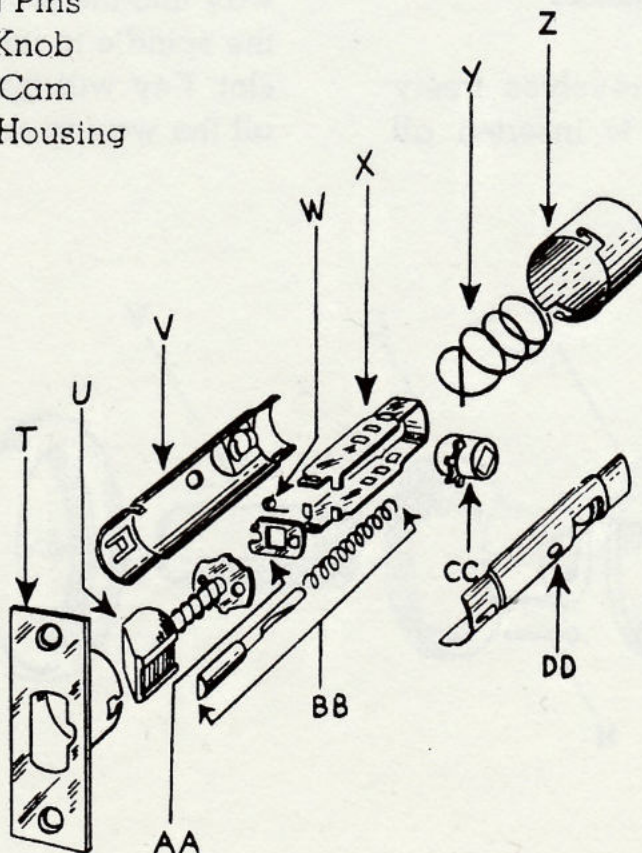


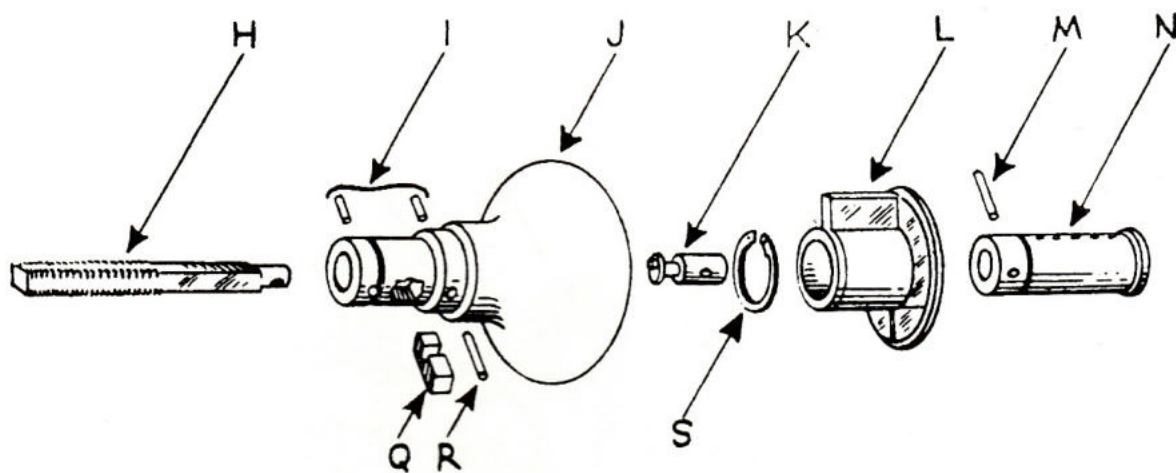
## CORBIN KEY IN THE KNOB LOCK NO. 320

manufactured by P. and F. Corbin, New Britain, Conn.

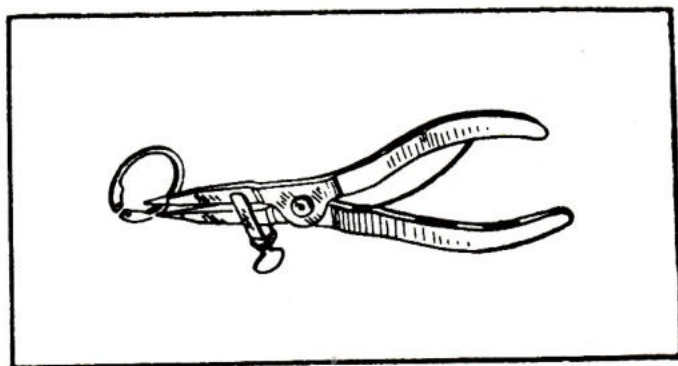
- A. Inside Knob
- B. Inside Rose
- C. Carrier Plate for Deadlock Hubs D
- D. Deadlock Hubs
- E. Spring
- F. Deadlocking Plate
- G. Outside Rose
- H. Knob Spindle
- I. Retaining Pins
- J. Outside Knob
- K. Cylinder Cam
- L. Cylinder Housing

- M. Retaining Pin
- N. Plug
- O. Thumbturn Spindle
- P. Retaining Washer
- Q. Locking Bolt
- R. Retaining Pin
- S. Retaining Washer





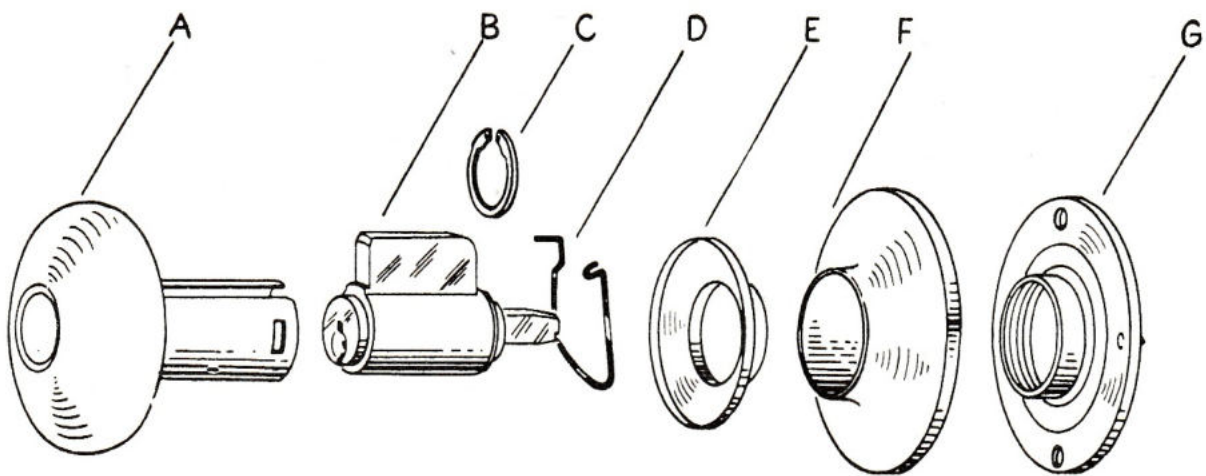
- T. Latchbolt Assembly Front
- U. Latchbolt
- V. Tubular Housing Plate (other half of DD)
- W. Automatic Deadlock Spring
- X. Bolt Carrier
- Y. Pusher Spring
- Z. Cap for Tubular Housing
- AA. Automatic Deadlock Holder
- BB. Automatic Deadlocking Bolt
- CC. Spindle Hub
- DD. Tubular Housing Plate (other half of V)



**Note:** When servicing this lock, use the Wald pliers shown in above illustration to expand washers P and S when removing or replacing.

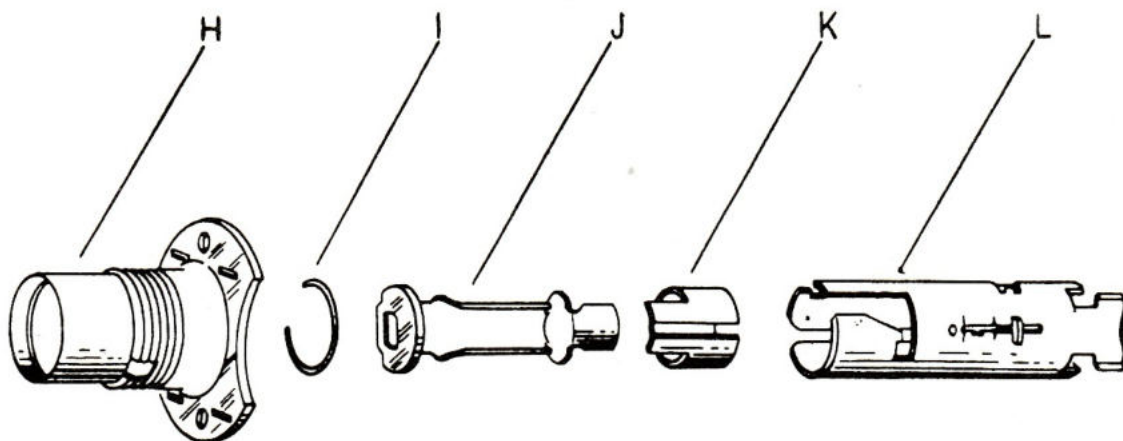


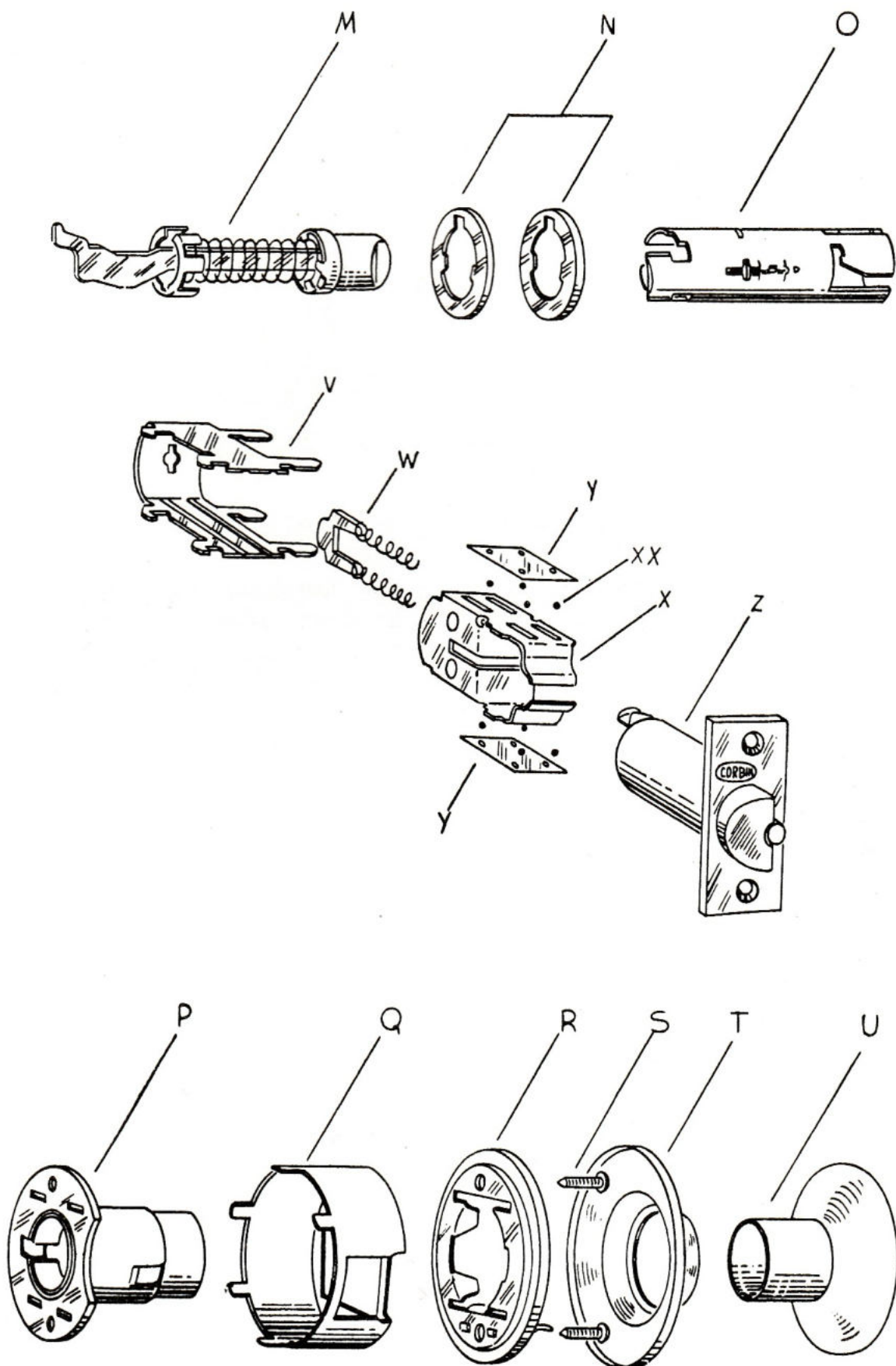
## "Defender" Standard Duty Cylindrical Lockset



- A. Cylinder Knob
- B. Cylinder
- C. Retaining Ring
- D. Cylinder Retaining Spring (see Fig. 3)
- E. Knob Collar
- F. Outside Rose
- G. Outside Rose Liner
- H. Cylinder Knob Scalp and Outside Flange
- I. Retainer
- J. Secondary Rollback
- K. Secondary Rollback Spacer
- L. Rollback Sub-assembly
- M. Turnbutton Spindle Sub-assembly

- N. Rollback Washers
- O. Rollback Sub-assembly
- P. Inside Flange and Knob Scalp
- Q. Case
- R. Inside Rose Liner
- S. Conepoint Screws
- T. Inside Rose
- U. Inside (Turnbutton) Knob
- V. Frame
- W. Spring Guide
- X. Retractor
- XX. Ball Bearings
- Y. Ball Spacer
- Z. Latchbolt





Manufactured by P. & F. Corbin Division  
American Hardware Corp., New Britain Conn.



### Changing Hand of Lock

First, back off rose. Then with lock in open position, turn knob as indicated by arrow  $\frac{1}{8}$  turn until the retainer is exposed in the slot of the flange. Depress the retainer and pull off knob.

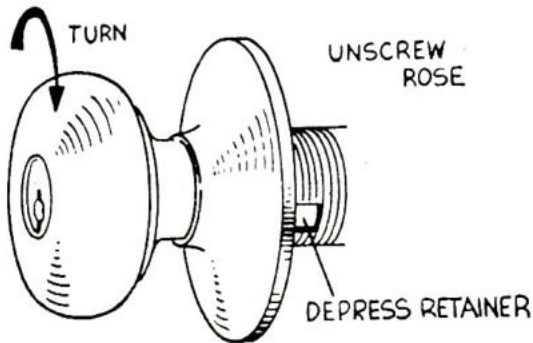


Fig. 1

Just turn over so that the key-way is in the upright position for the hand of the door and push it back on the flange until it comes to a stop. Then turn the knob slightly and continue to push it in until it hits the retainer. (The slight turn is necessary to permit a raised lug to engage a slot in the knob sleeve.) When the knob hits the retainer, turn it just as before until the slot is exposed. Depress the retainer and push the knob all the way in until it seats itself securely.

### Removing Cylinder

If the knob collar is tight, scribe the parting line with a sharp instrument to break the seal formed by the finish, and then tap the knob on a wooden surface to release it.



Fig. 2

The cylinder is held in position by a retaining spring. This spring forces the cylinder sideways into a notch so that it will remain secure in the knob.

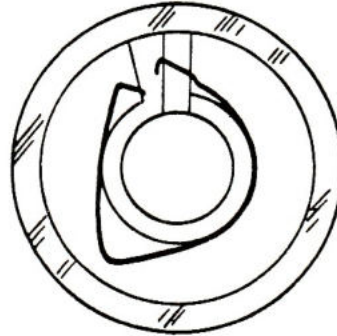


Fig. 3

### Latchbolt Assembly

In most cases it will not be necessary to disassemble the latchbolt assembly. However, should the occasion arise, caution should be employed when removing the case (Q). The retaining lugs are fragile and will break if not straightened slowly and carefully.

The spring guide within the assembly is removed easily by depressing until the upper lip is clear of slot in the frame. Just pull it toward you and release it.



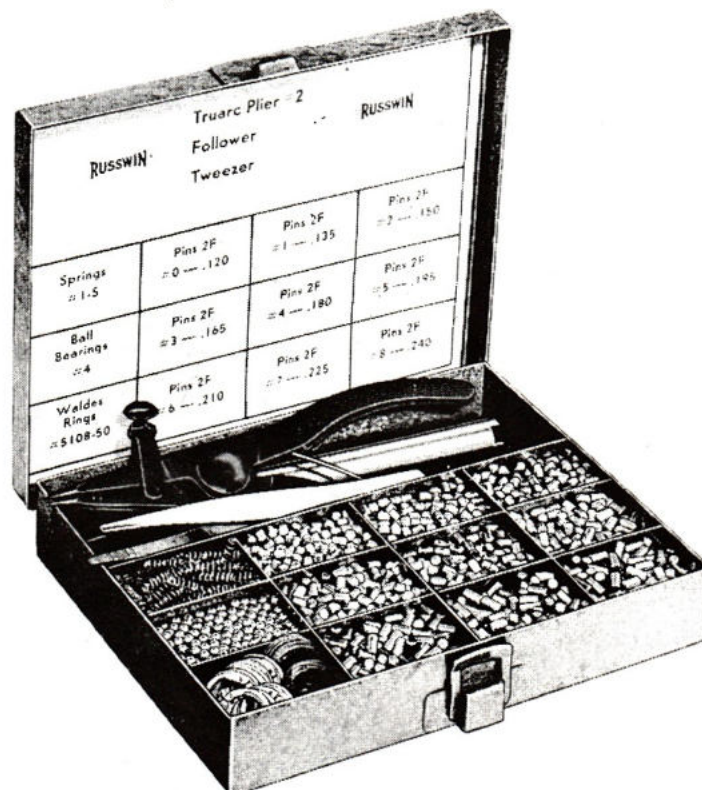
Fig. 4

When reassembling, be careful to seat balls (XX) in the grooves of the frame. There should be four of them under each spacer (Y).

## MISCELLANEOUS INFORMATION

Corbin and Russwin key in the knob locks are identical except for the key cylinder and key blanks. Parts may be used interchangeably.

A keying kit for work on Corbin-Russwin locks is available from most locksmith supply houses. Installation tools for mounting locks on doors may be obtained also, along with mounting templates which are available without cost from the factory.

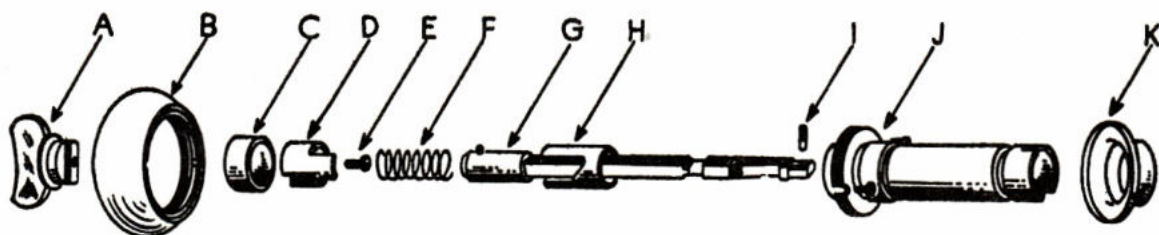


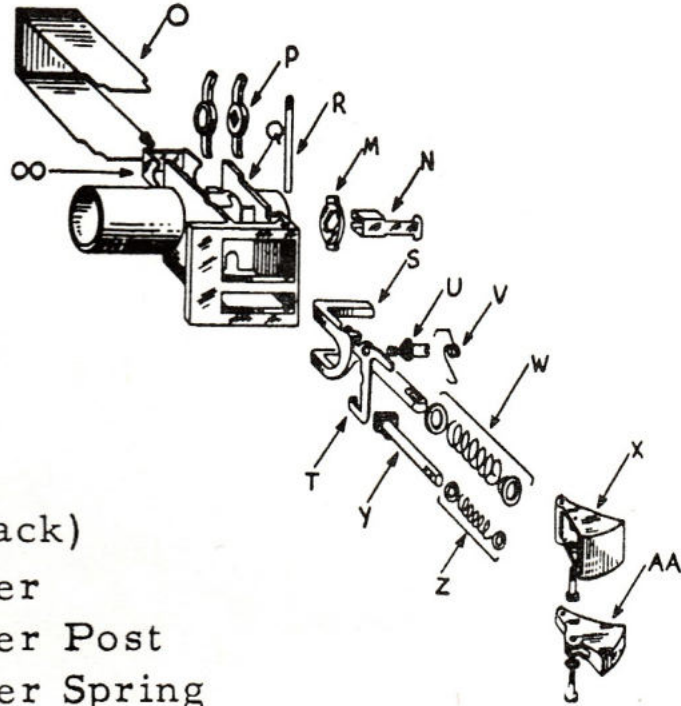


# Corbin Unit Lock No. 900-780

manufactured by P. & F. Corbin, New Britain, Conn.

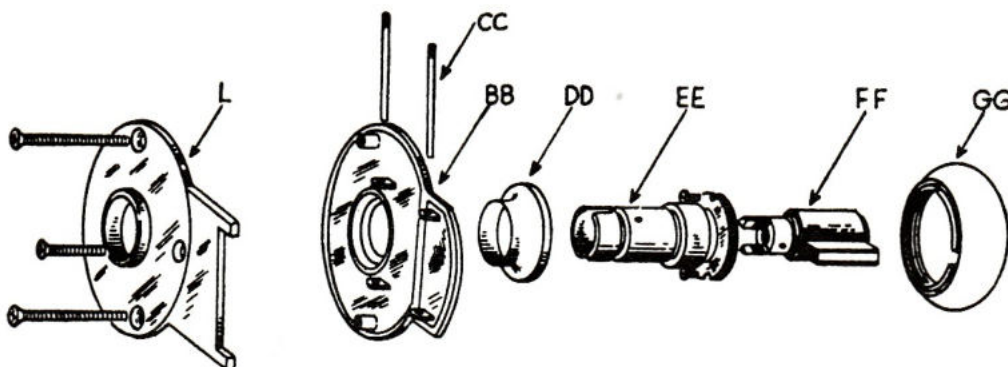
- A. Thumb Turn
- B. Inside Knob Shell
- C. Spacer Bearing
- D. Driver
- E. Retaining Screw for Thumb Turn
- F. Spindle Spring
- G. Spindle
- H. Cam Sleeve ( spindle retracts  
along this sleeve)
- I. Spindle Pin ( must be removed  
to permit removal  
of spindle)
- J. Knob Shank
- K. Knob Ferrule
- L. Escutcheon Plate
- M. Retainer Clip for Spindle  
( This must be snapped  
off before inside knob  
assembly before inside  
knob assembly can be  
removed from chassis)
- N. Spindle Stop
- O. Lock Cover
- P. Hubs
- Q. Lock Chassis
- R. Hinge Pin for Latch and Deadlocking  
Bolt





- S. Retracting Yoke  
(pulls latchbolt back)
- T. Deadlocking Lever
- U. Deadlocking Lever Post
- V. Deadlocking Lever Spring
- W. Latch Spring
- X. Latchbolt
- Y. Deadlocking Lever Connecting Rod
- Z. Spring for Deadlocking Lever Rod

- AA. Deadlocking Bolt
- BB. Escutcheon Plate
- CC. Plate Retaining Pins
- DD. Knob Ferrule
- EE. Knob Shank
- FF. Cylinder
- GG. Outside Knob Shell

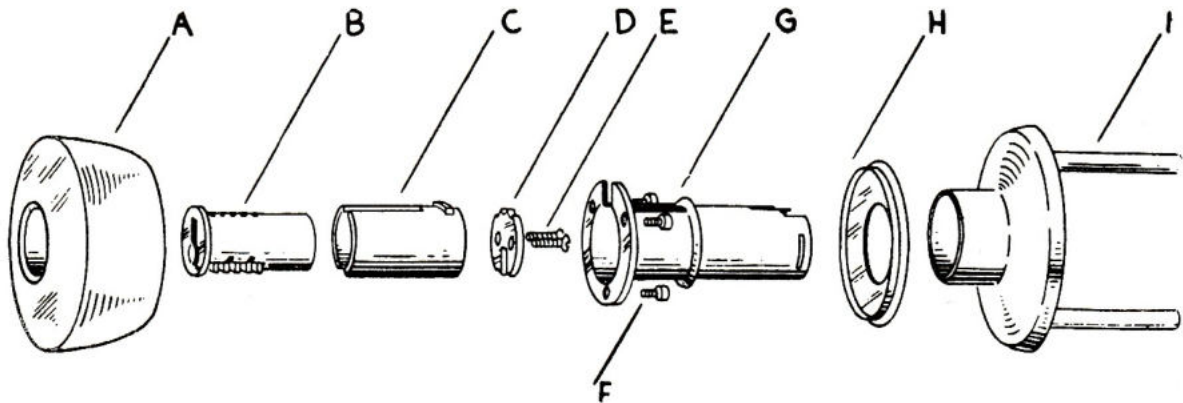




## DEXTER NO. 300

**Manufactured by Dexter Lock Co.**

Subsidiary of National Brass Co., Grand Rapids, Mich.



A—Outside Knob

B—Cylinder Plug

C—Cylinder Housing

D—Plug Retainer

E—Retainer Screws

F—Knob Bearing Screws

G—Knob Bearing

H—Knob Collar

I—Outside Rose

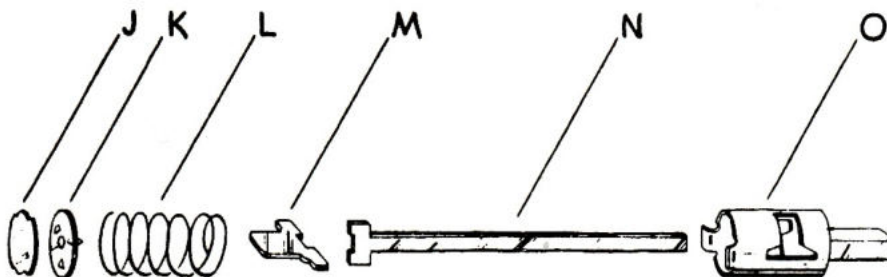
J—Plate

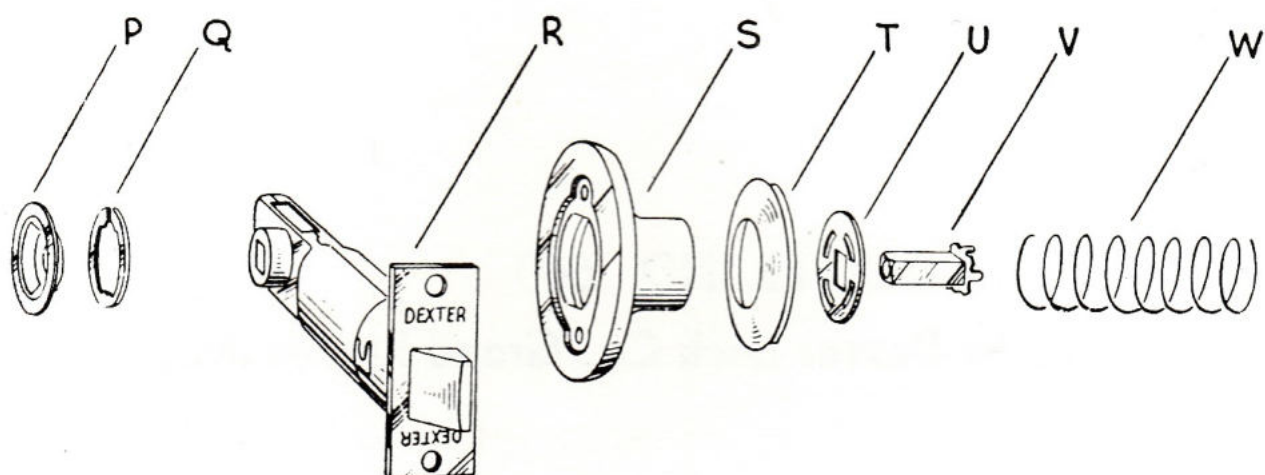
K—Spring Cap

L—Spring

M—Button Lock

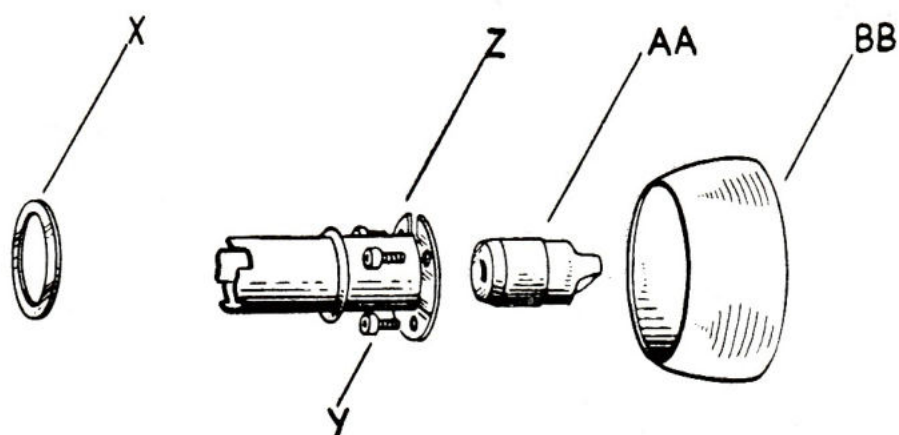
N—Push Button Control



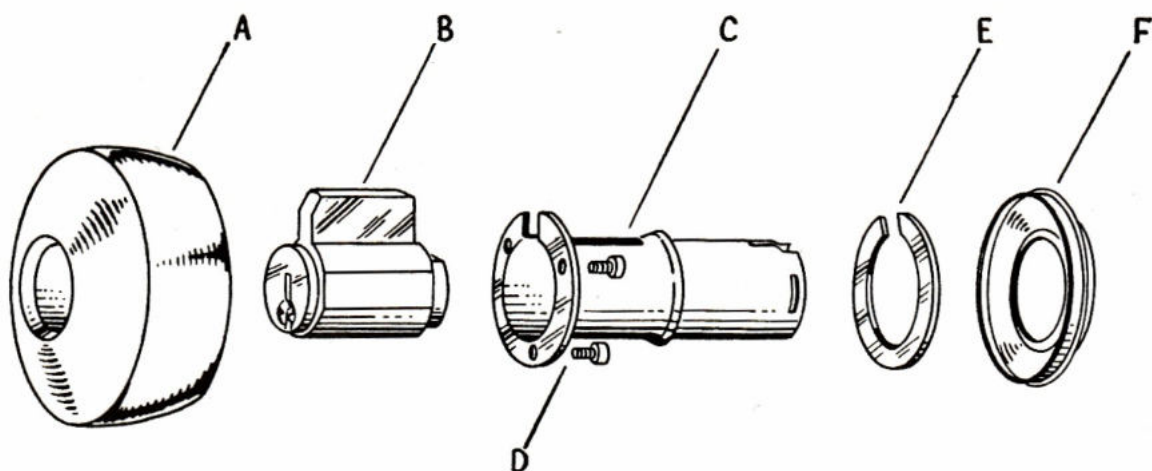


O—Spindle Housing  
P—Thrust Washer  
Q—Retainer for Thrust Washer  
R—Latch Body  
S—Inside Rose  
T—Knob Collar  
U—Retainer

V—Spindle  
W—Spring  
X—Washer  
Y—Knob Bearing Screw  
Z—Knob Bearing  
AA—Turn Button  
BB—Inside Knob







## DEXTER NO. 660

Manufactured by Dexter Lock Co., Grand Rapids, Mich.

A.—Outside Knob

B.—Cylinder

C.—Knob Bearing

D.—Knob Bearing Screws

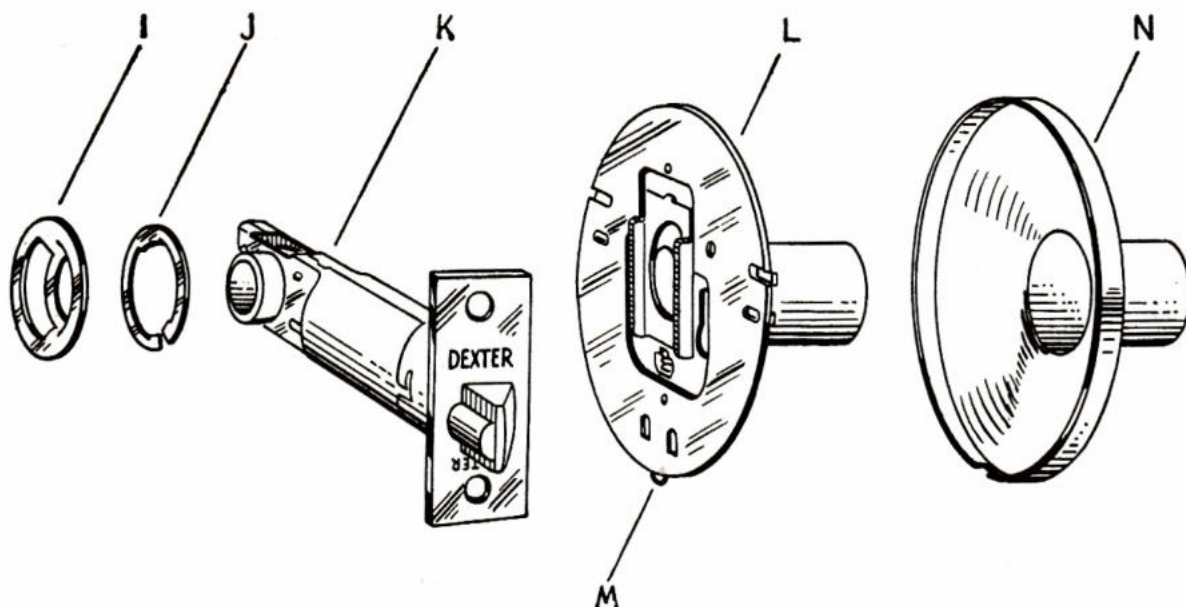
E.—Spring Washer

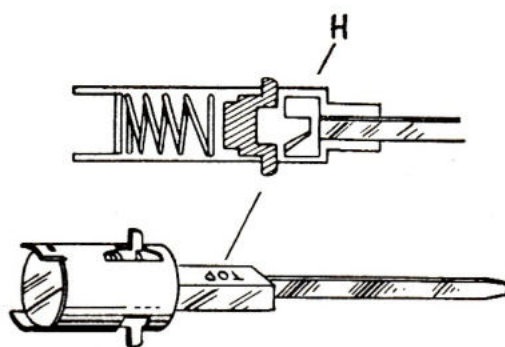
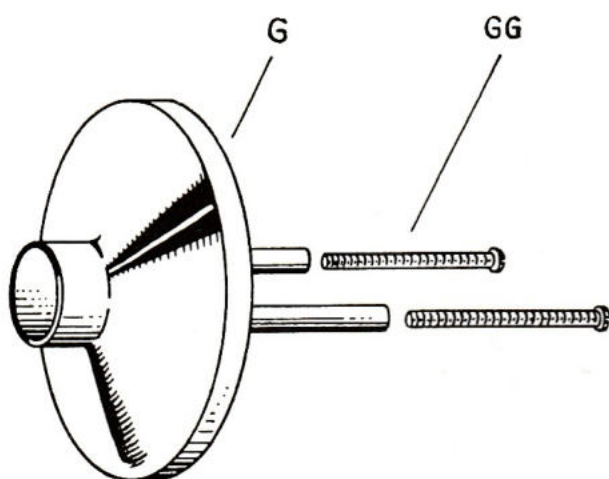
F.—Knob Collar

G.—Outside Rose

GG.—Mounting Screws

H.—Spindle and Turn Button Control Assembly (Not to be disassembled)





I.—Retainer Washer

J.—Retainer Clip

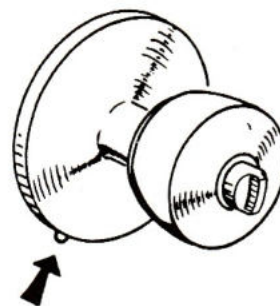
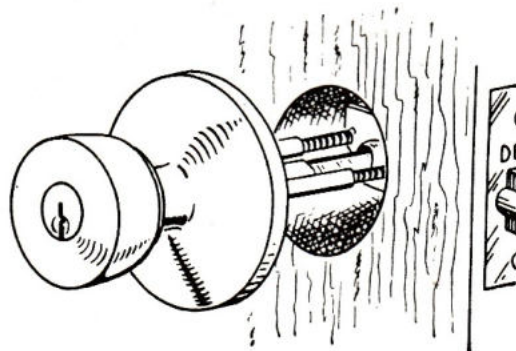
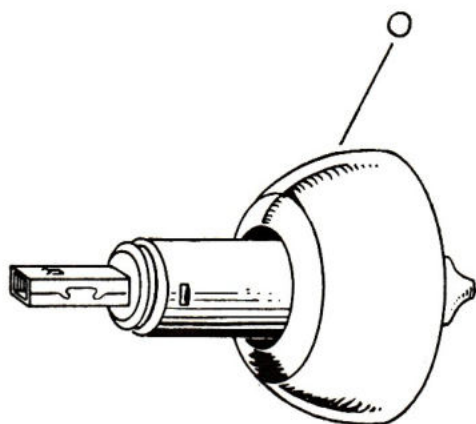
K.—Latchbolt Assembly

L.—Mounting Plate

M.—Knob Release Tab

N.—Inside Rose

O.—Inside Knob and Turn Button Assembly (Not to be disassembled)



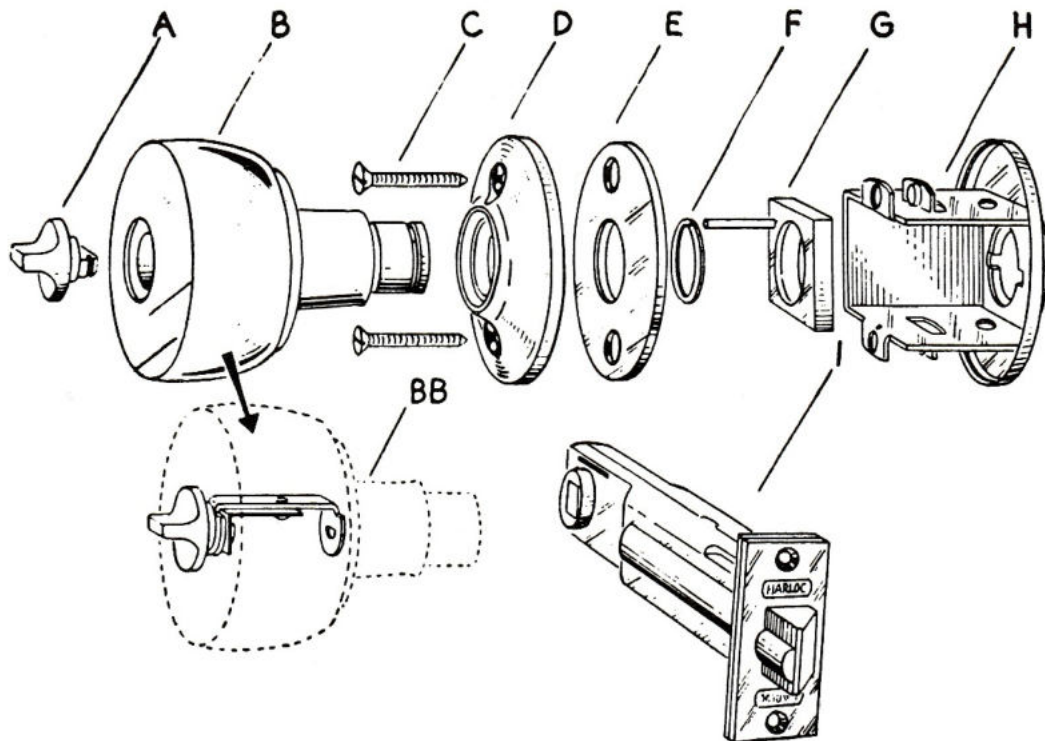
### SERVICE NOTES

1. To remove Inside Knob, push up spring wire release tab at arrow.
2. It is not necessary to remove mounting screws to install or remove lock. Just loosen screws and slide mounting plate into position.



# PACEMAKER PIN TUMBLER KEY-IN-KNOB LOCK SET

Mfg. by Harloc Products Corp. New Haven, Conn.



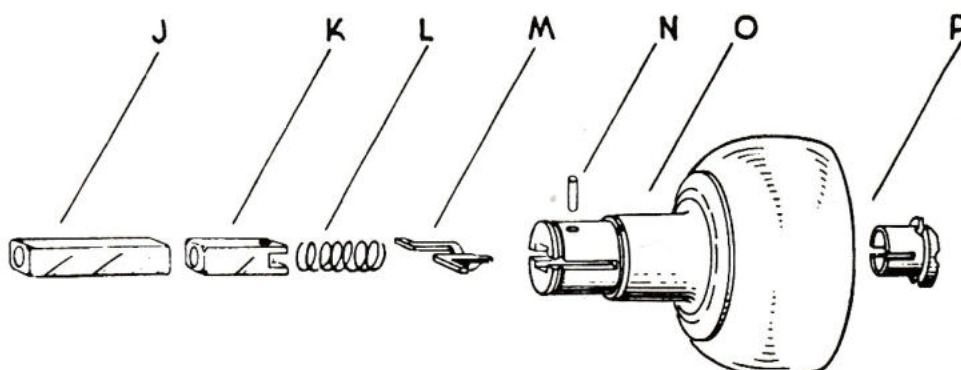
A—Turn Button

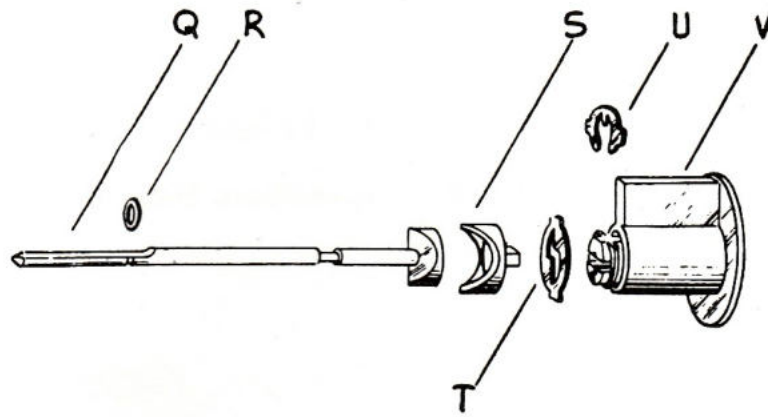
B—Inside Knob

BB—Phantom view of inside knob  
showing button and link as-  
sembly

C—Fastening Screws

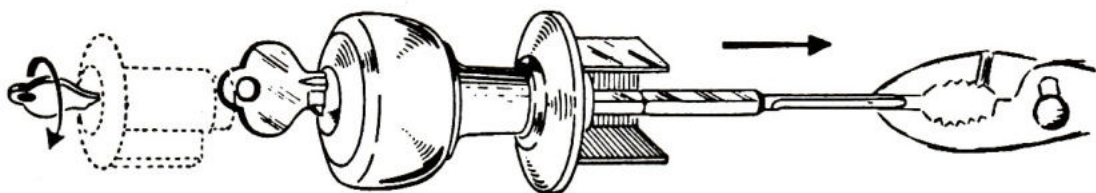
D—Inside Rose





- |  |   |
|--|---|
| E—Rose Plate   | N—Spindle retaining pin                     |
| F—Retaining Washer   | O—Outside Knob                              |
| G—Knob Bearing   | P—Sleeve                                    |
| H—Housing and Outside Race                                     | Q—Button Control Rod                        |
| I—Latchbolt Assembly   | R—Stop Ring (prevents J from sliding off A) |
| J—Swivel Spindle Section                                       | S—Cam (actuates Q)                          |
| K—Rigid Spindle Section  | T—Stop (to prevent full turn of cam)        |
| L—Spring   | U—Plug Retainer (spring loaded)             |
| M—Locking Slide (protruding lugs engage slots in outside rose) | V—Cylinder                                  |

### SERVICE INSTRUCTIONS



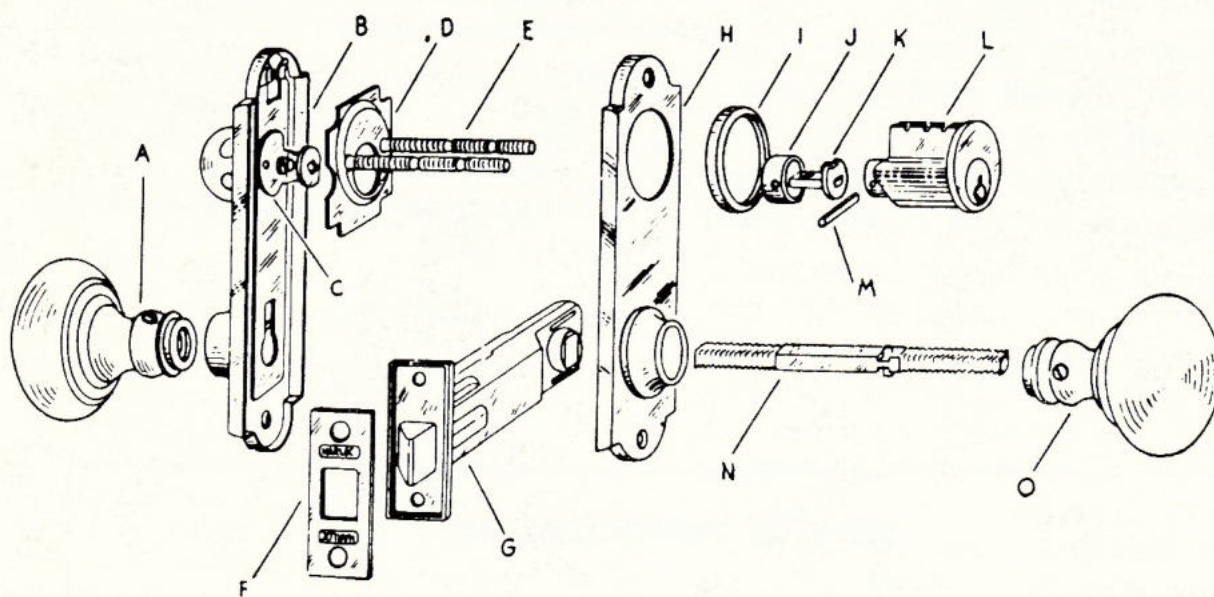
To remove cylinder, pull back button control rod and turn plug 90° clockwise. Pull out cylinder.



# HARLOC SERIES 400 "HAMPTON"

Manufactured by Harloc Products Corporation, New Haven, Conn.

- |                           |                              |
|---------------------------|------------------------------|
| A. Inside Knob            | E. Cylinder Screws           |
| B. Inside Escutcheon      | F. Armor Plate for Latchbolt |
| C. Locking Slide Assembly | G. Latchbolt Assembly        |
| D. Cylinder Back Plate    | H. Outside Escutcheon        |



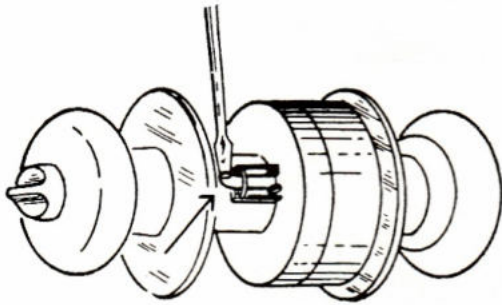
- |                            |                  |
|----------------------------|------------------|
| I. Cylinder Ring           | M. Retaining Pin |
| J. Plug Retainer (collar)  | N. Spindle       |
| K. Connecting Stem and Cam | O. Outside Knob  |
| L. Cylinder                |                  |

## No. 700 Series

Manufactured by

HOLLYMADE HARDWARE MANUFACTURING CO.

4865 Exposition Blvd., Los Angeles 16, Calif.

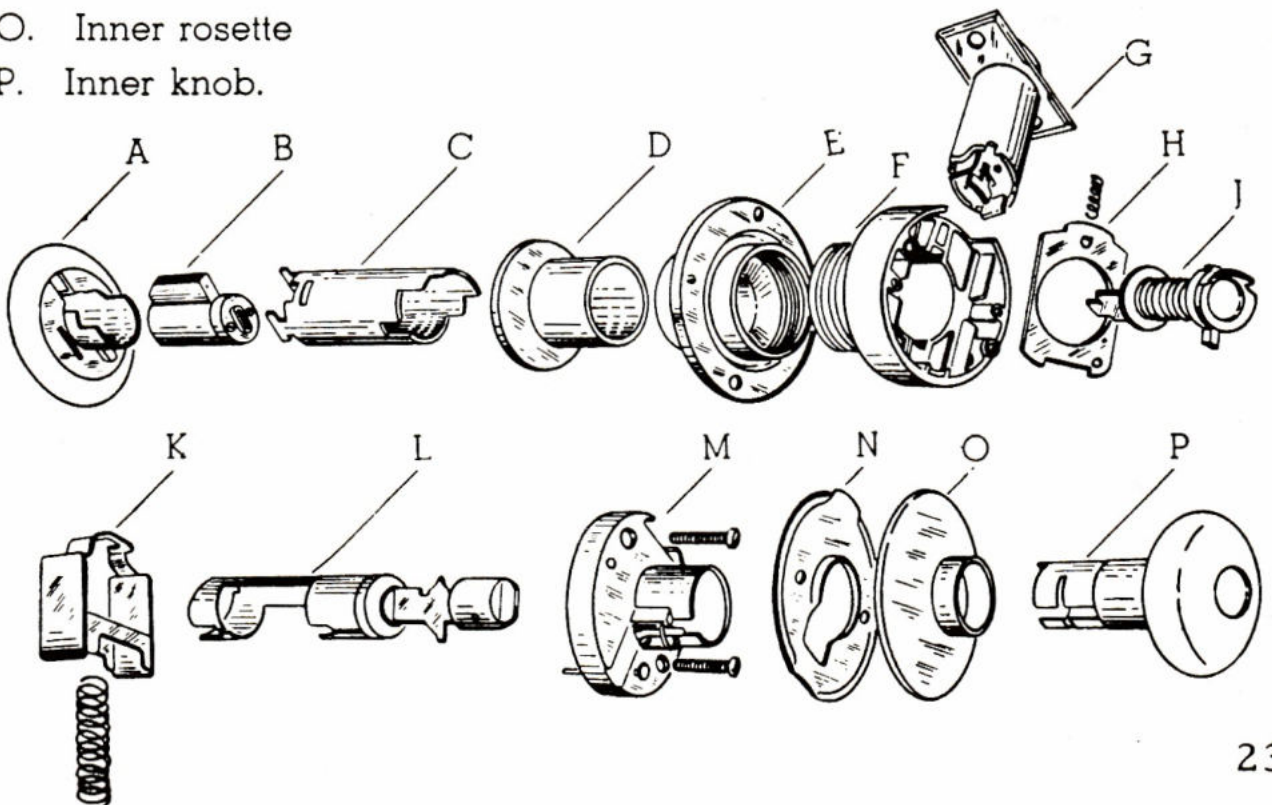


All parts are interchangeable and reversible. May be used on right or left hand doors by merely reversing latch bolt unit.

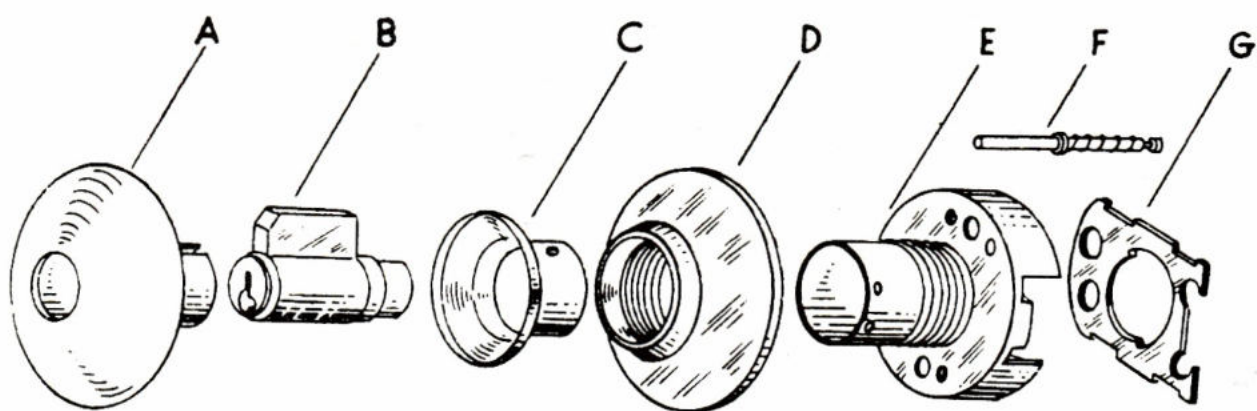
Inner knob may be detached from lifing spring as shown in Diagram No. 1

Diagram No. 1

- A. Outer knob
- B. Pin tumbler cylinder
- C. "Roll Back" This operates the latch-bolt retractor
- D. Outer knob shell which forms external shank of knob.
- E. Outer rosette
- F. Partial retractor housing
- G. Latch-bolt assembly anchors
- H. Knob keeper. This plate anchors the knob roll-back to the retractor housing. The spring holds the plate in place.
- J. Key release arm assembly. This part is actuated by the cylinder when it is operated by a key.
- K. Latch retractor and spring
- L. Bayonet type push button
- M. Second half of retractor housing.
- N. Inner rosette retainer
- O. Inner rosette
- P. Inner knob.



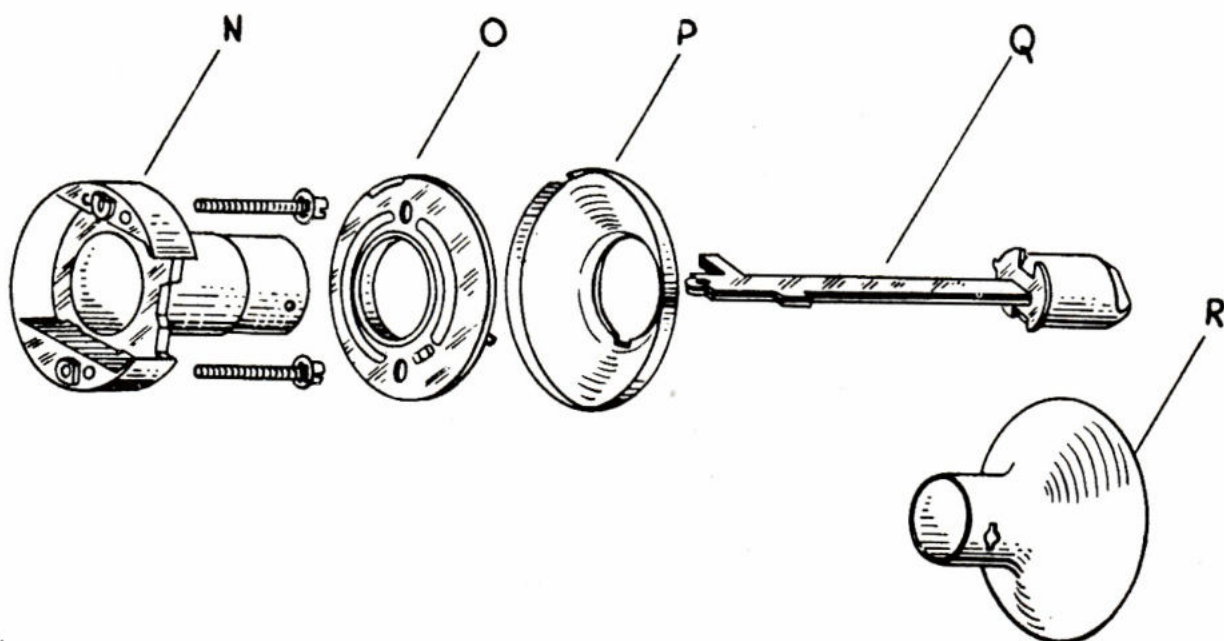


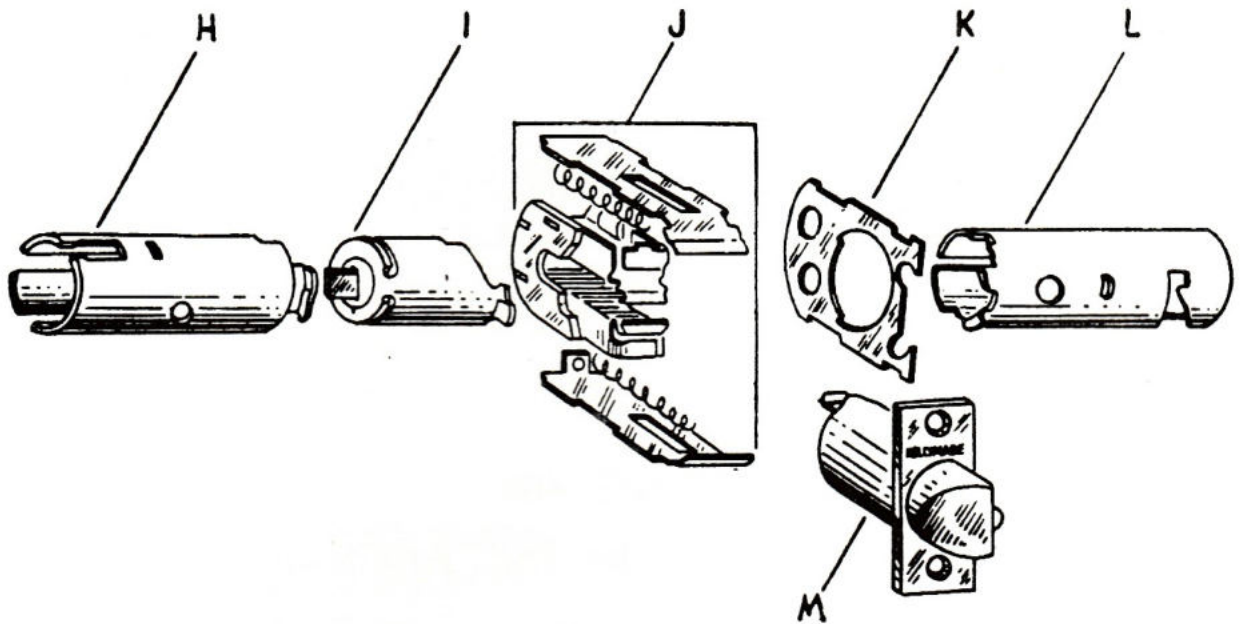


## HOLLYMADE "CHALLENGER"

Manufactured by Hollymade Hardware Mfg. Co.  
Los Angeles, Calif.

- |  |   |
|--|---|
| A. Outside Knob  | J. Retractor Assembly                               |
| B. Cylinder  | K. Knob Shank Retainer                              |
| C. Knob Filler Cover                                     | L. Knob Shank                                       |
| D. Outside Rose  | M. Latch  |
| E. Outside Half of Case                                  | N. Inner Half of Case                               |
| F. Spring Loaded Stop Pin<br>(To hold rose from turning) | O. Fastening Plate for Case<br>(Holds Lock in door) |
| G. Knob Shank Retainer                                   | P. Inner Rose                                       |
| H. Knob Shank  | Q. Turn Button                                      |
| I. Roll-back Coupling                                    | R. Inner Knob                                       |





## SERVICE INSTRUCTIONS

On the wafer tumbler model, the keyway may be reversed to conform to the hand of the door by the following procedure:

1. Insert key and turn 90 degrees clockwise. (Fig. 1)
2. Remove key and insert service key (which is furnished with a new lock) or a thin pick to the back of the keyway. (Fig. 2) Depress the spring loaded connecting piece until you hear a click. (Fig. 3)
3. Insert the regular key once again and turn clockwise another 90 degrees. This will permit the spring loaded connecting bar to slip into the back of the cylinder cam. The keyway will now face in the correct direction. (Fig. 4)

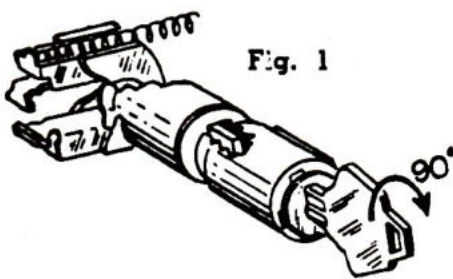


Fig. 1

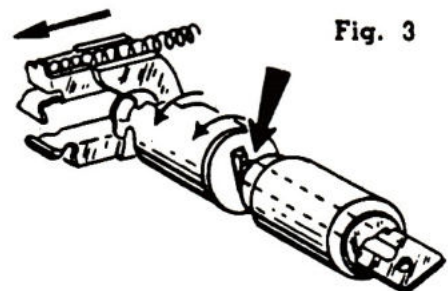


Fig. 3

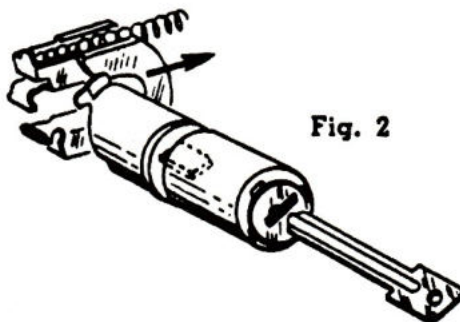


Fig. 2

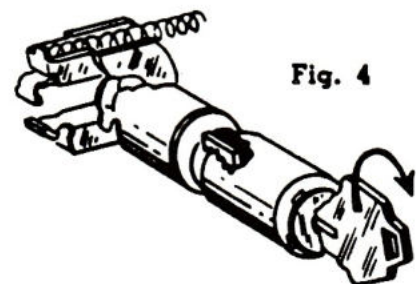
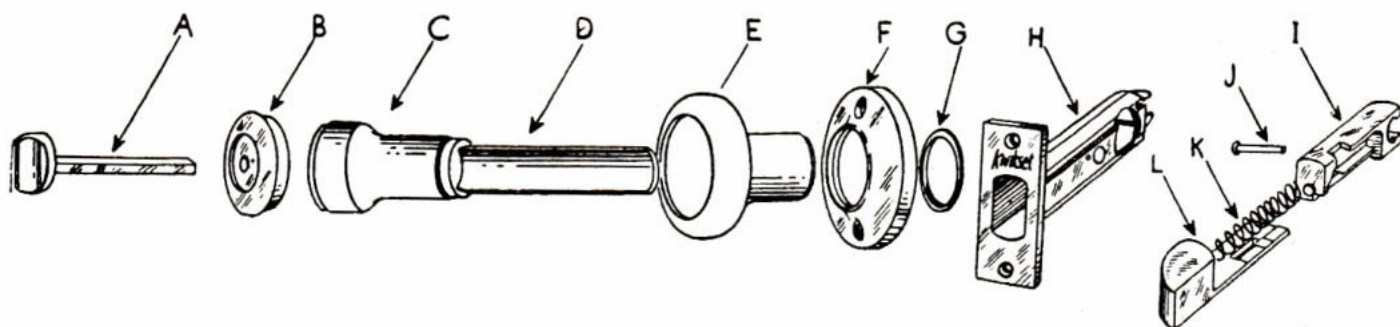


Fig. 4

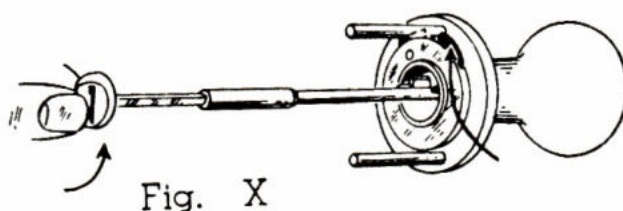




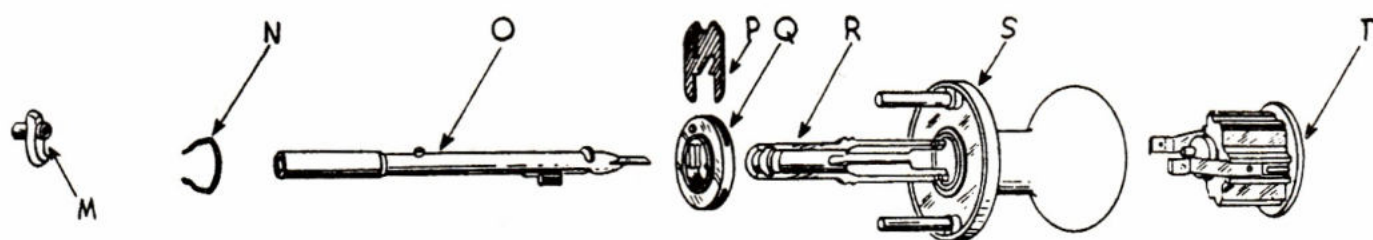
## KWIKSET NO. 400

Manufactured by Kwikset Locks, Inc., Anaheim, California

- A. Inside locking button
- B. Knob Cap
- C. Knob Body (Die Cast)
- D. Spindle (Steel Insert)
- E. Knob
- F. Rose
- G. Ring retainer for Knob
- H. Latch Body
- I. Push bar
- J. Bearing pin for driver M



When the inside button is turned, the deadlocking spindle also rotates and thus moves up the slide (P) where the small half-round notch engages one of the posts of the outside rose. This action deadlocks the outside knob. The slide may be returned to the unlocked position by using the key on the outside.



- K. Latch Spring
- L. Latchbolt
- M. Driver
- N. Spring clip
- O. Deadlocking Spindle (See Figure Y)
- P. Deadlocking Slide (See Figure X)
- Q. Carrier for deadlocking plate
- R. Spindle
- S. Outside rose
- T. Cylinder (Note two spring ends protruding from rear of cylinder. By squeezing these together with a fork or tweezers, cylinder may be removed from knob.)

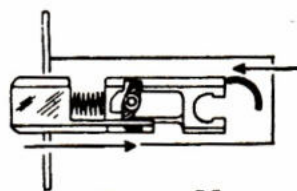
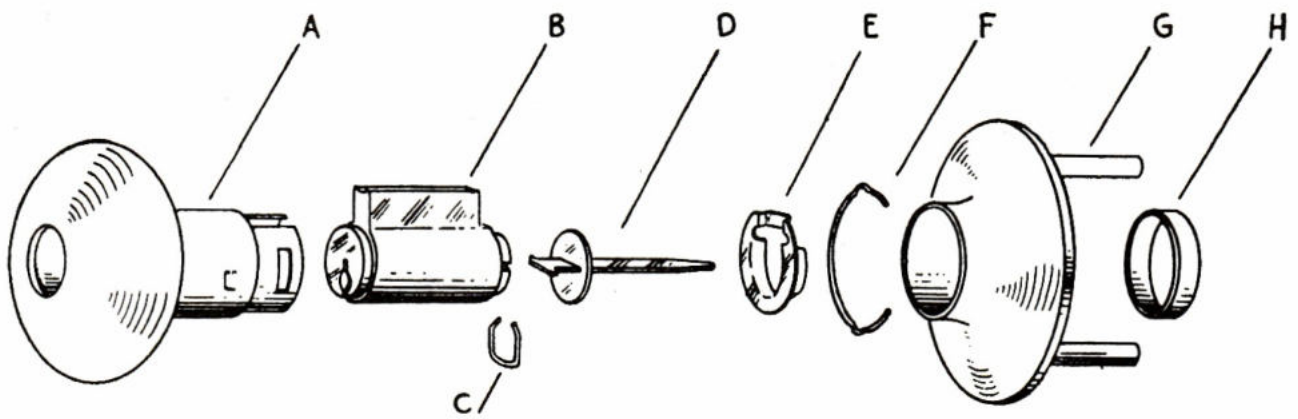


Fig. Y

When spindle rotates as shown, forward pressure is put on the pushbar. The driver (M in Exploded View) changes the motion from forward to backward and thus retracts the latchbolt.

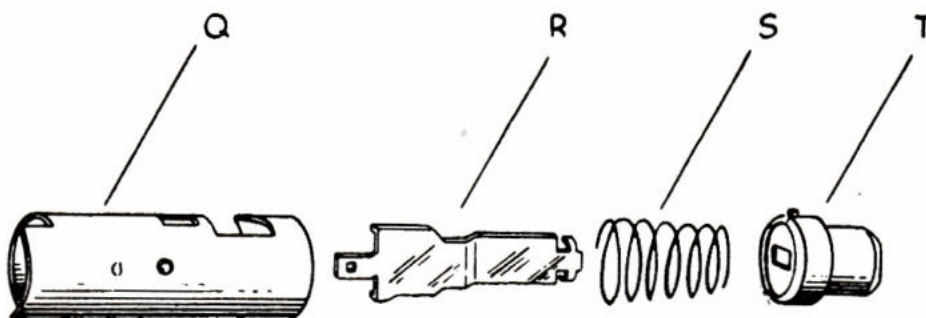


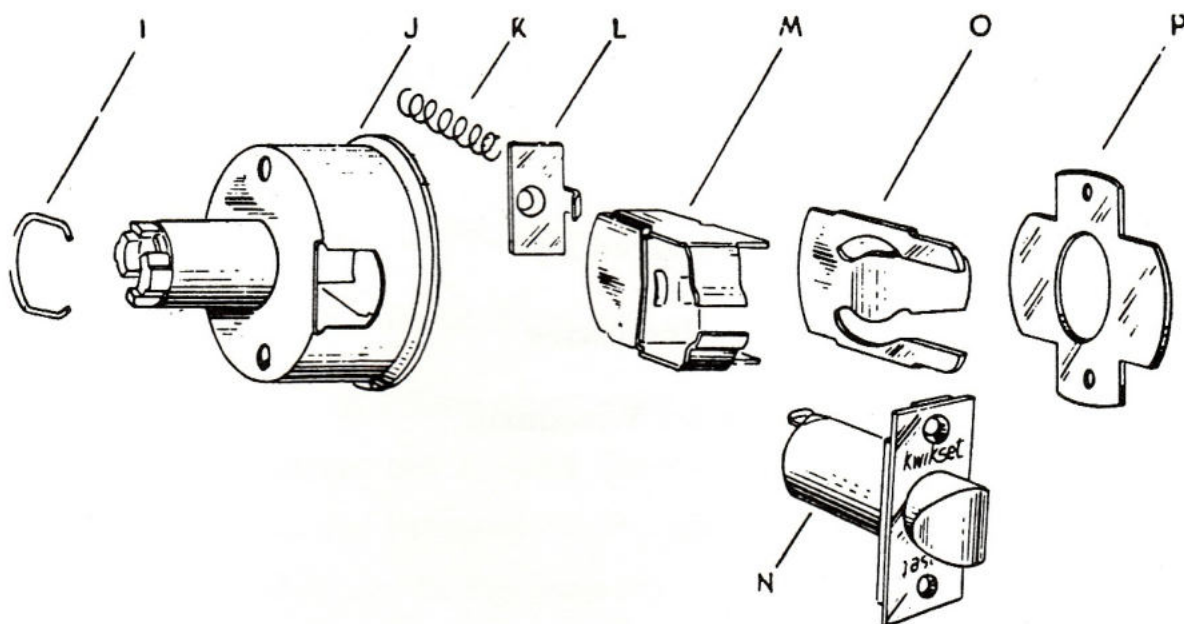


## KWIKSET NO. 600

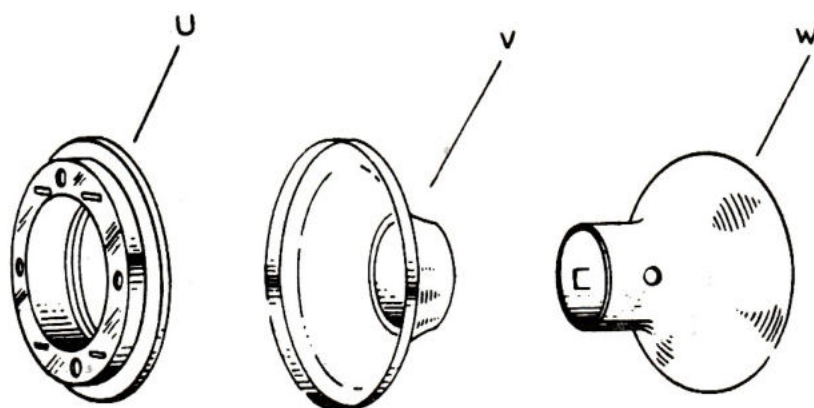
manufactured by Kwikset Locks, Inc.  
Anaheim, California

- A—Outside Knob
- B—Cylinder
- C—Tailpiece Retainer
- D—Tailpiece
- E—Cylinder Centering Ring
- F—Retainer Spring (holds cylinder assembly in knob)
- G—Outside Rose
- H—Knob Spacer
- I—Knob Retainer Spring
- J—Retractor Housing





- K—Retractor Spring
- L—Hook Plate (holds turnbutton stem "R" in locked position)
- M—Retractor
- N—Latchbolt Assembly
- O—Stem Guide
- P—Spindle Bearing
- Q—Spindle
- R—Turn Button Stem
- S—Stem Spring (ejects stem "R" when hook "L" is released by movement of retractor)
- T—Turn Button
- U—Housing Cover
- V—Inside Rose
- W—Inside Knob





# The La Belle Knob Lock

Manufactured by

LaBelle Industries

Oconomowoc, Wisconsin

- A. Outside Knob
- B. Cap for cylinder plug
- C. Cylinder plug (takes B & S Series C)
- D. Anti-pick cap. This cap prevents the insertion of a straight pick to operate the locking device.
- E. Outer plunger bar. This bar slides down toward the spindle when the key is turned. (See figure 2 to see how it operates.)
- F. Inner plunger bar. This bar is pushed in by the outer plunger as the plug is turned. (See figure A)

Note: Figure 3 shows how to assemble and disassemble plunger bar assembly.

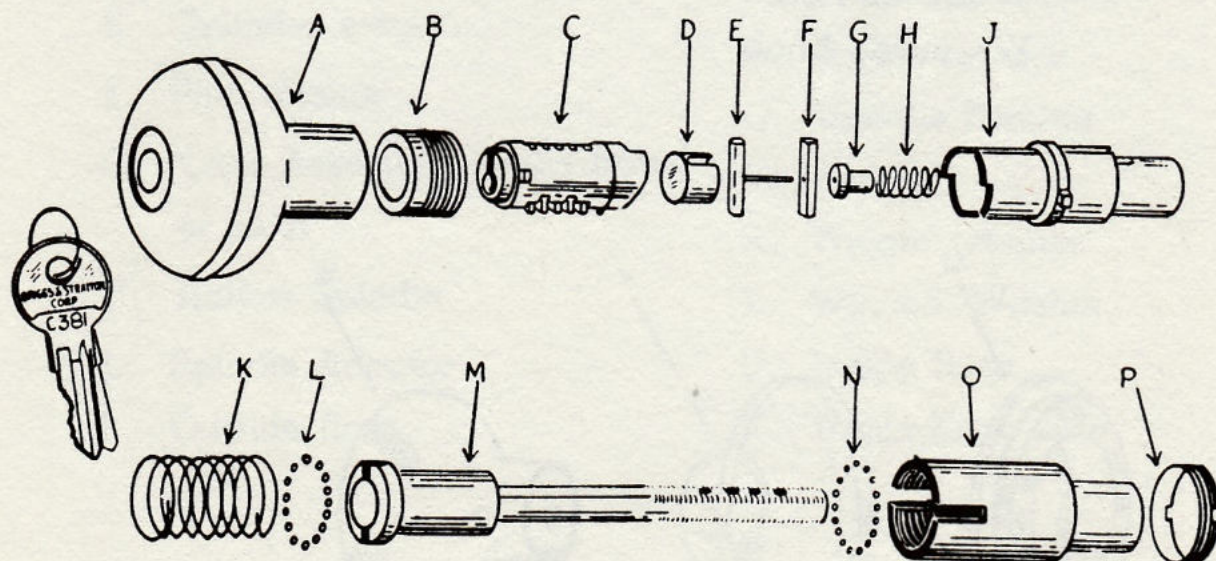


Fig. A



- G. Pressure button - maintains back pressure on inner plunger bar at all times.
- H. Pressure Button Spring
- J. Housing for plug and plunger assembly.
- K. Spring. This spring constantly pushes the outer ends of the inner plunger bar toward the spindle. The pressure of the spring and the pressure button spring prevents the bar from floating freely in the housing.
- L. Ball bearings between housing and spindle.
- M. Spindle
- N. Ball bearings between spindle and O.
- O. Outer shell. All of the foregoing parts are contained in this shell.
- P. Retainer ring. This ring holds the entire assembly in the outer knob. To begin to disassemble the knob use a pair of offset round nose pliers, or make a wrench out of a piece of pipe.

Fig. 4

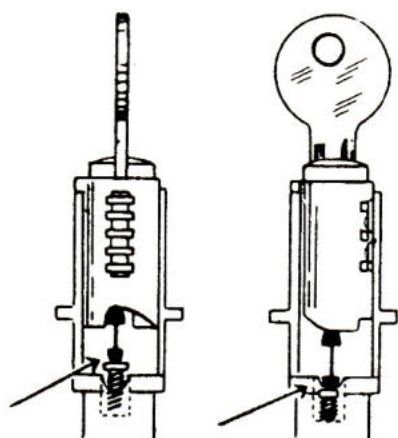


Fig. 2

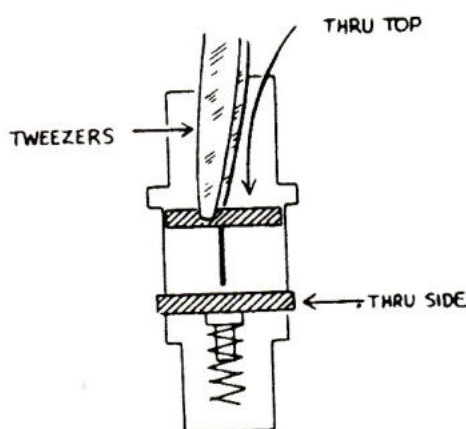
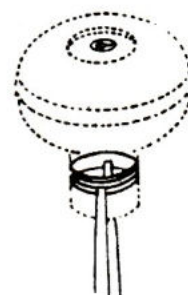


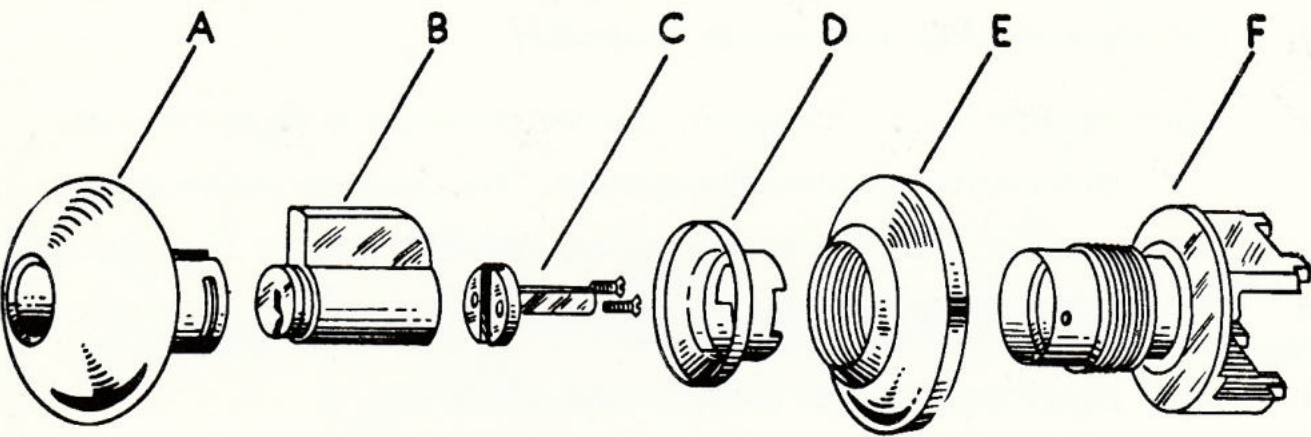
Fig. 3



(Fig. 4)

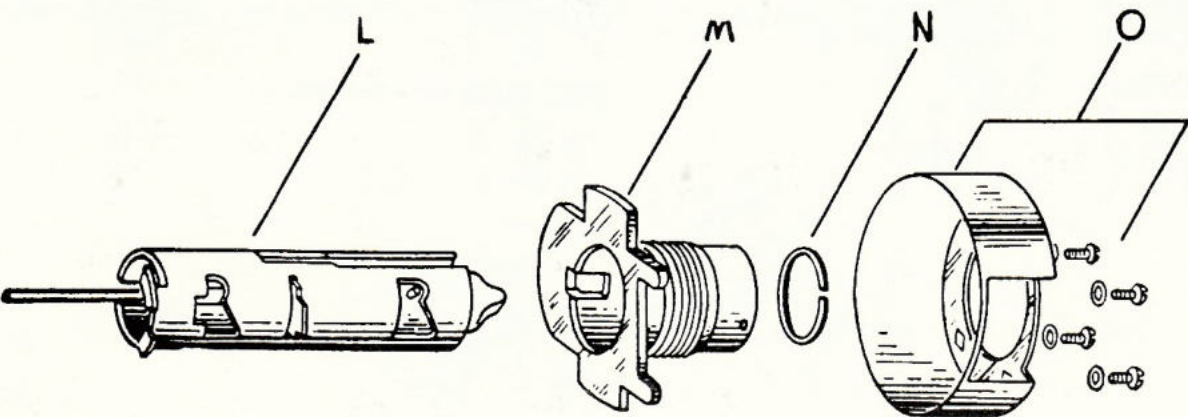


# Lockwood Heavy Duty Key 'N Knob Lockset Model No HB-130

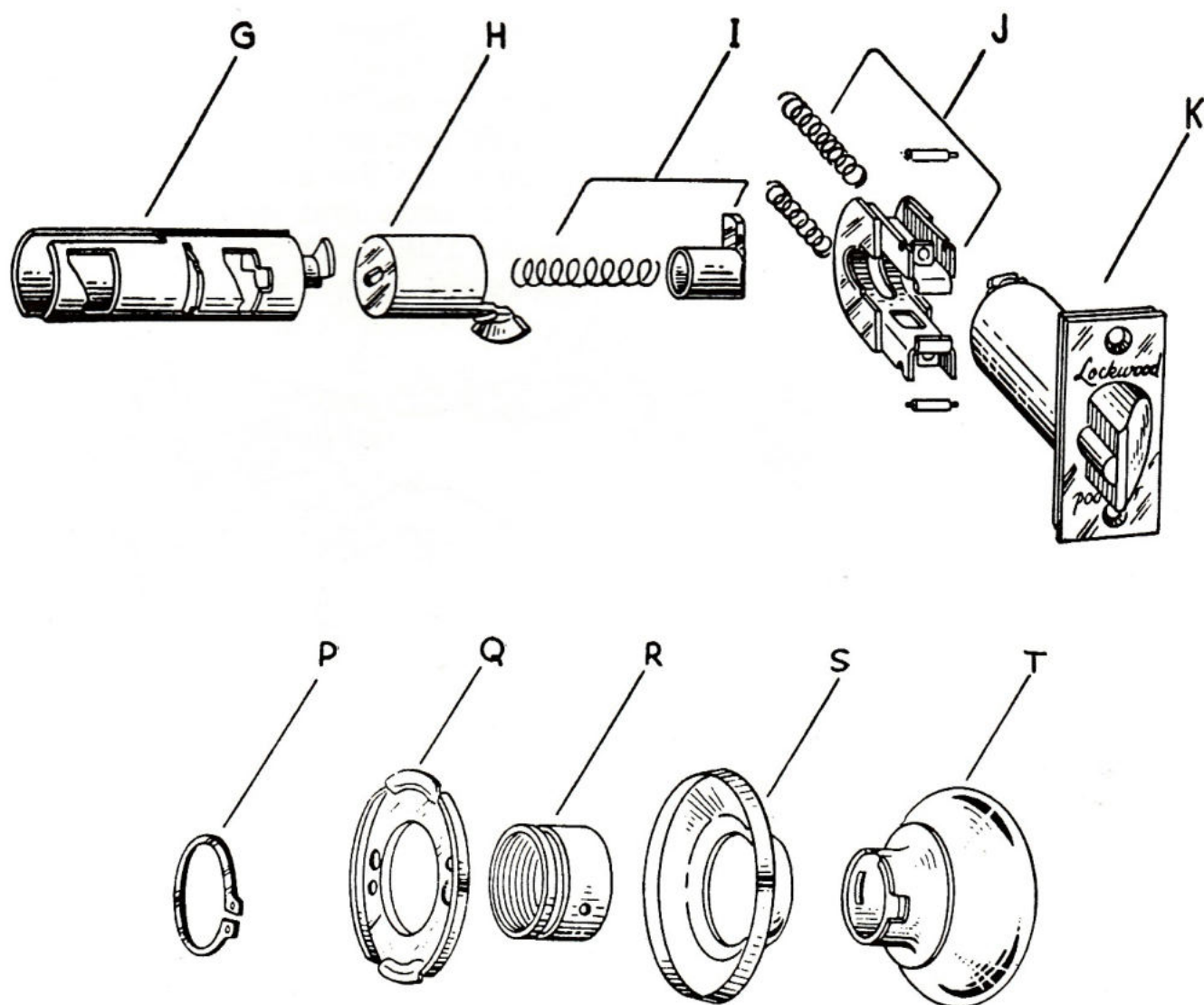


## Nomenclature

- |                              |                                    |
|------------------------------|------------------------------------|
| A. Outside Knob              | L. Inside Knob Spindle with Button |
| B. Cylinder                  | M. Partial Retractor Housing       |
| C. Cylinder Connecting Bar   | N. Spring Clip                     |
| D. Outside Knob Collar       | O. Retractor Housing Cover         |
| E. Outside Rose              | P. Tru-arc Retainer                |
| F. Partial Retractor Housing | Q. Inside Retaining Plate          |
| G. Outside Knob Spindle      | R. Adjustable Sleeve               |
| H. Key Release Spindle       | S. Inside Rose                     |
| I. Locking Cam               | T. Inside Knob                     |
| J. Retractor Shoe            |                                    |
| K. Latch Assembly            |                                    |



Manufactured by Lockwood Hardware Mfg. Co.,  
Fitchburg, Mass.



## Service Notes

### Removing Knob

To remove the inside knob and rose of this lock, insert a pick into the small hole in the ferrule of the inside knob. (Fig. 1) Depress the retainer and pull off the knob. The rose may then be unscrewed.

On some models, the rose may be snapped off by using a screwdriver in the notch that is provided. On these models, the retainer plate itself unscrews.)

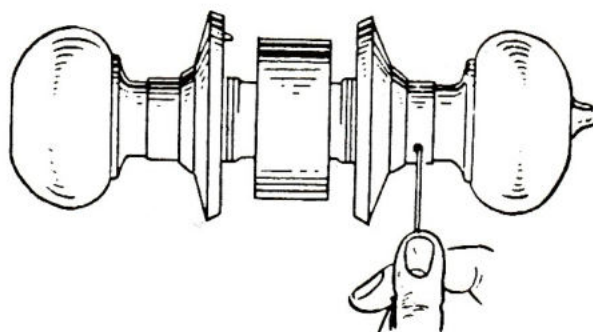


Fig. 1



## Service Notes on Lockwood HB-130

### Disassembling Housing

BE CAREFUL WHEN DISASSEMBLING THE RETRACTOR HOUSING! Use a small T shaped wooden plug as shown in Figure 1 to keep the retractor inside the housing while you are disassem-

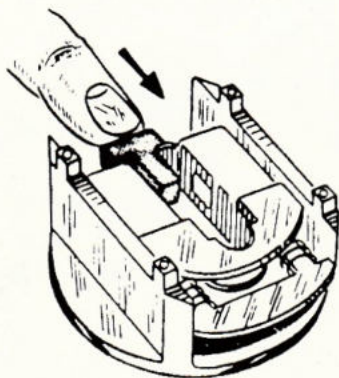


Fig. 2

bling this section. Otherwise, everything may fly apart! Lift the inside section completely from the lock. Disassemble in accordance with the exploded view.

### Reassembling

When reassembling the lock, you could use a regular pencil to keep the spring loaded locking cam inside the retractor housing and spindle. Slip the pencil under the bridge as shown in the diagram. (Fig. 3) This will hold the cam down within the spindle so that you can insert the retractor

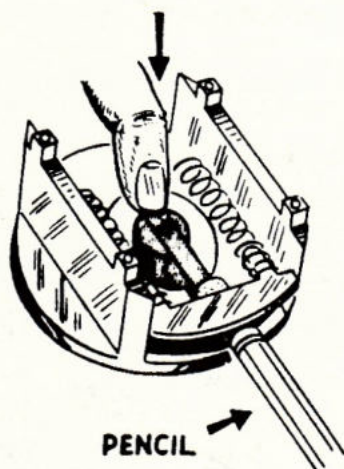


Fig. 3

shoe. Use the plug again to hold the retractor shoe in place when assembling the balance of the retractor housing.

### Changing Hand

To change the hand of the lock, insert the key in the cylinder and turn 90 degrees to the right. Insert a pick into the small hole inside of the knob and depress the retainer. Pull the knob off, then remove the key. (Fig. 4)

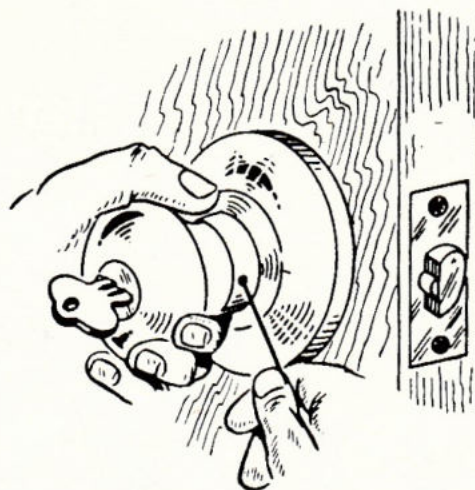


Fig. 4

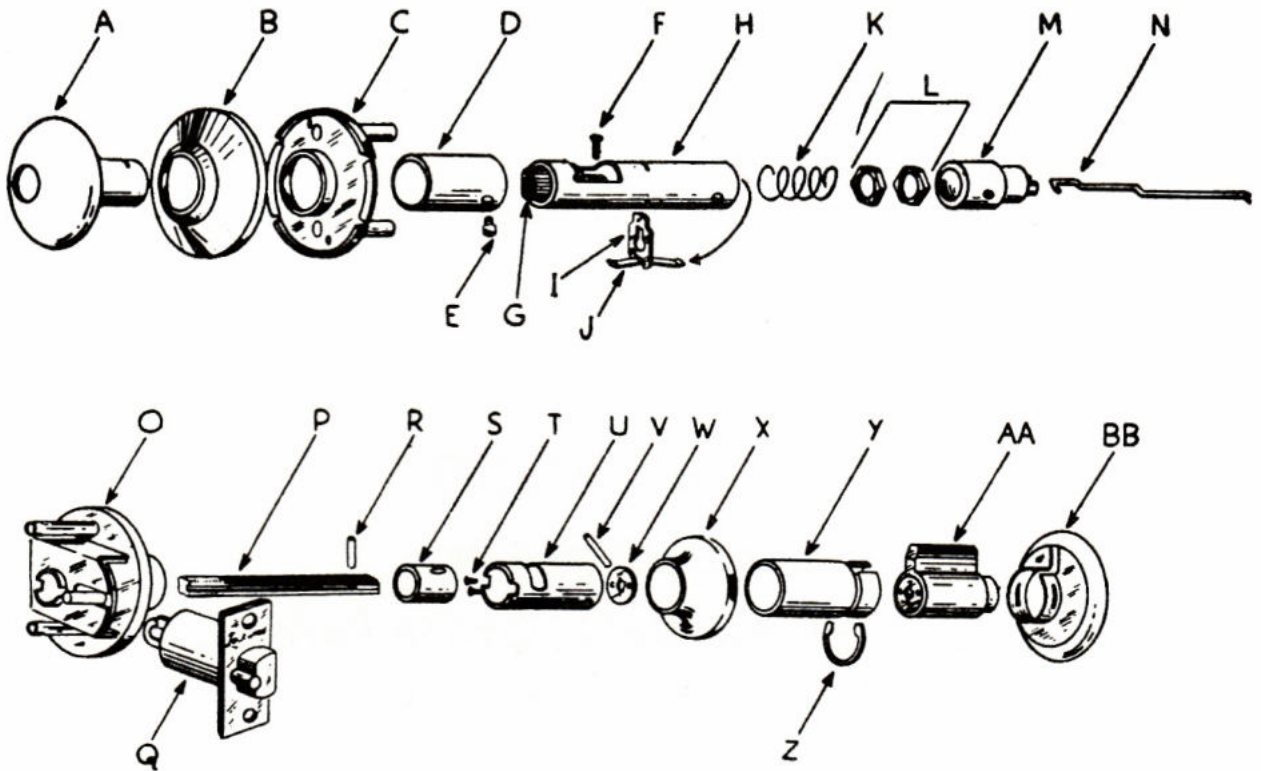
Turn the knob around one half turn, insert the key again, turn it to the right and replace the knob by depressing the retainer. Push the knob all the way into the sleeve until it seats itself.

### Removing Cylinder

To remove the cylinder for rekeying, master keying etc., remove the knob as explained above. Loosen the knob collar by pushing, or by tapping the knob on the bench. Lift off the collar using a screwdriver. Slide out the cylinder.

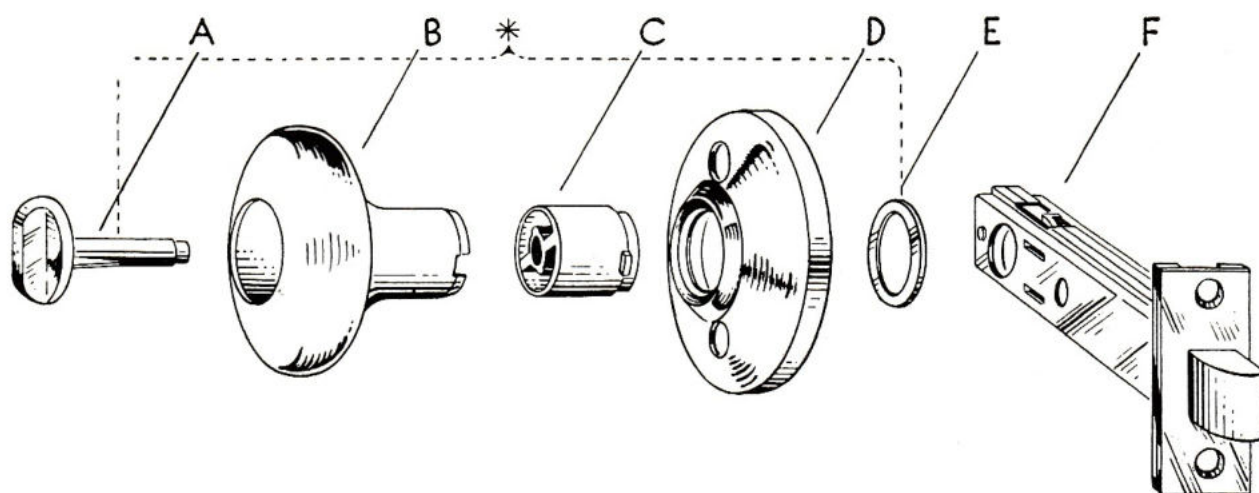
## KEY 'N KNOB TUBULAR LOCK SET

Manufactured by Lockwood Manufacturing Co., Fitchburg, Mass.



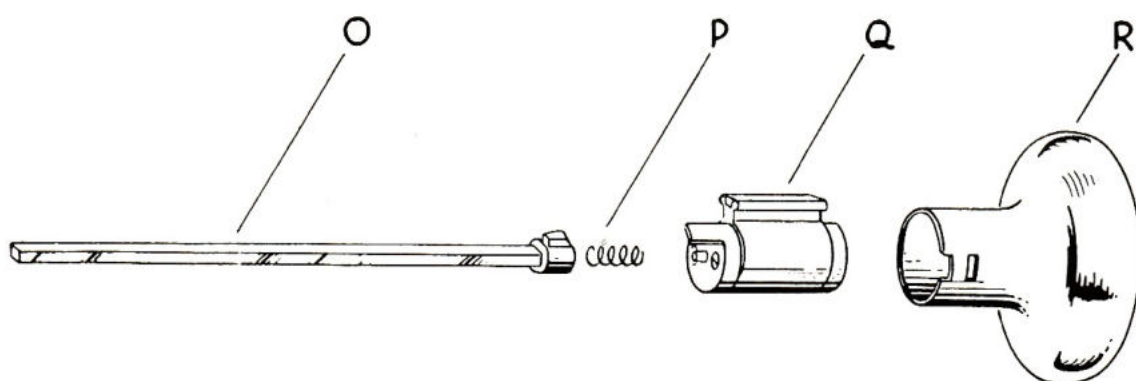
- |  |   |
|--|---|
| <p>A. Inside Knob</p> <p>B. Inside Escutcheon</p> <p>C. Retaining Plate</p> <p>D. Knob Ferrule</p> <p>E. Ferrule Retaining Screw</p> <p>F. Holding Screw for Bar "N"</p> <p>G. Push Button</p> <p>H. Sleeve for Button</p> <p>I. Spring for Inner Knob Retainer</p> <p>J. Slide for holding inner knob in place</p> <p>K. Push Button Spring</p> <p>L. Retaining nuts (fit in spindle P)</p> <p>M. Sleeve (This part also retains the inside knob ferrule in position)</p> <p>N. Bar to operate hubs</p> <p>O. Locking Assembly Housing</p> <p>P. Spindle</p> <p>Q. Latchbolt Assembly</p> | <p>R. Spindle Pin</p> <p>S. Bearing Sleeve for Spindle</p> <p>T. Cylinder Cam Screws</p> <p>U. Tailpiece for Cylinder</p> <p>V. Pin</p> <p>W. Cam</p> <p>X. Outside Knob Section</p> <p>Y. Outside Knob Ferrule</p> <p>Z. Cylinder Retaining Clip</p> <p>AA. Cylinder</p> <p>BB. Outside Knob Section</p> |
|--|---|

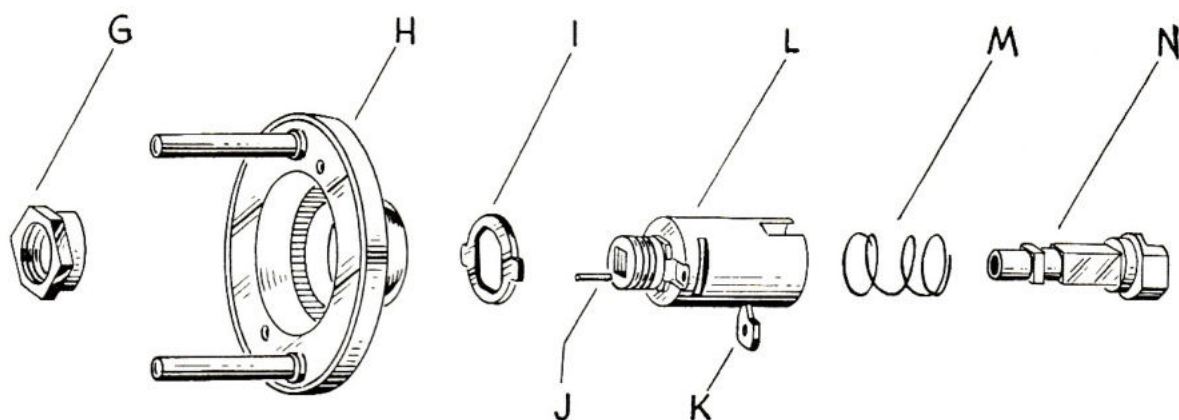




**E-Z-SET NO. 400**  
**manufactured by**  
**National Hardware Corp., Ozone Park, N. Y.**

- A—Turn Button
- B—Inside Knob
- C—Turn Button Locking Housing
- D—Inside Rose
- E—Guide Washer
- F—Latchbolt Assembly





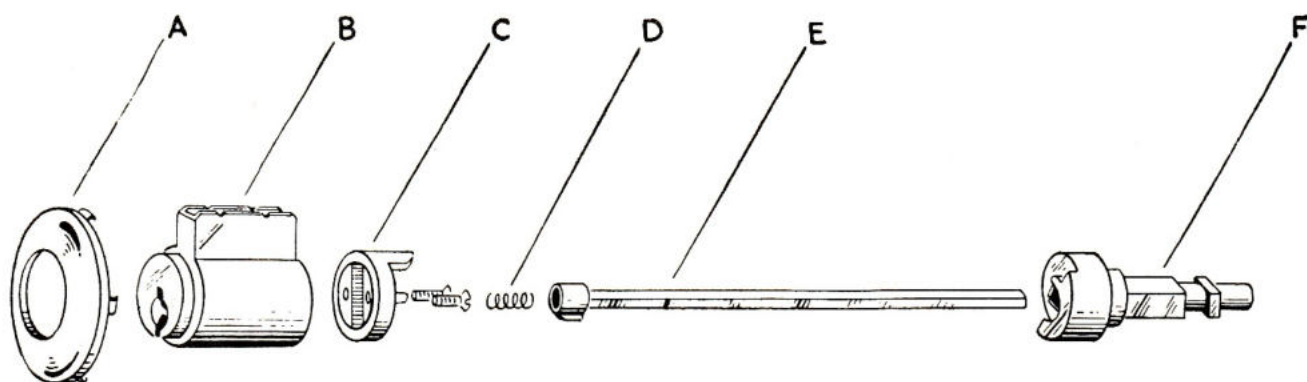
- G—Retaining Nut
- H—Outside Rose
- I—Locking Washer
- J—Knob Retaining Lug Pin
- K—Knob Retaining Lug
- L—Cylinder Housing
- M—Spring
- N—Outside Spindle
- O—Turn Button Stem
- P—Spring
- Q—Cylinder
- R—Outside Knob

### SERVICE NOTES

\* This assembly is one unit and should not be disassembled in a normal service procedure. Disassembly of this unit is difficult and usually requires cutting of exterior pieces.

Use a  $\frac{3}{4}$ " box wrench to remove nut G.

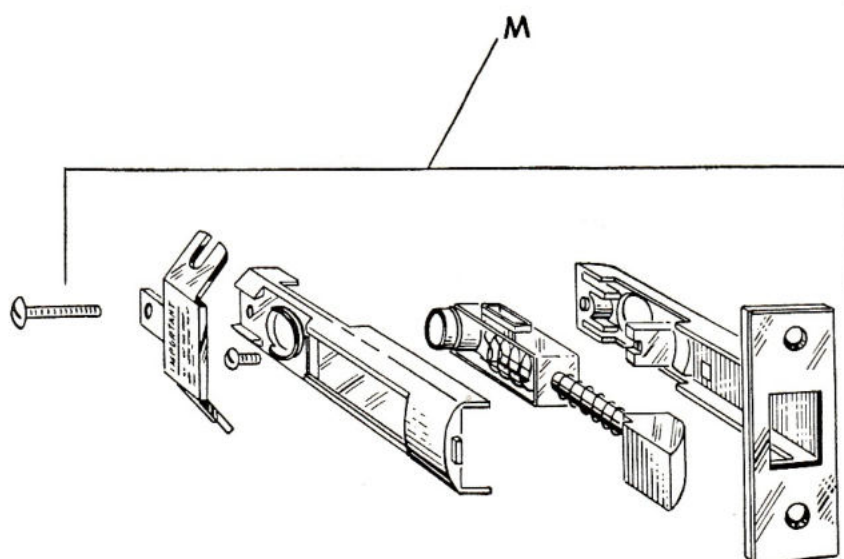


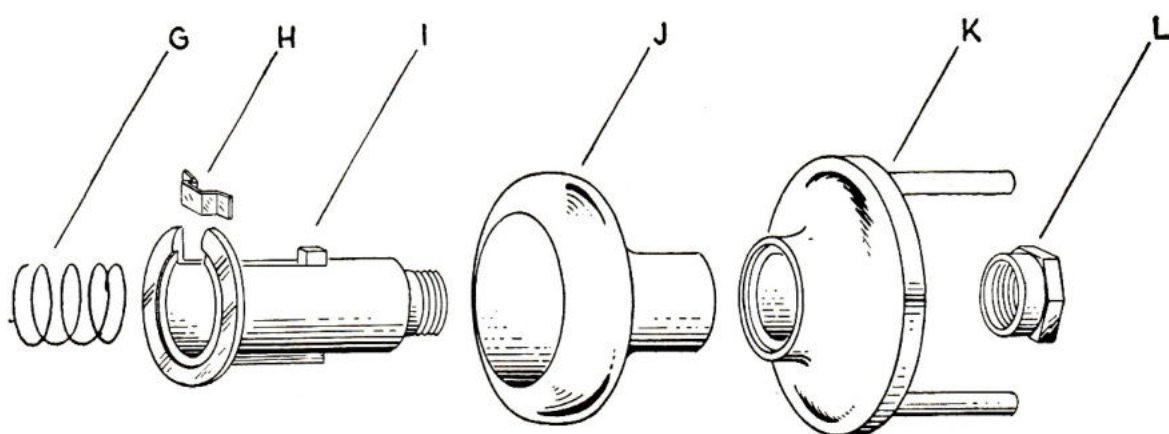


## E - Z - SET NO. 426

Manufactured by National Hardware Corp.  
Ozone Park, N. Y.

- A. Knob Scalp
- B. Cylinder
- C. Cylinder Cam
- D. Spring
- E. Turn Button Stem
- F. Outside Spindle (locks into plate of assembly N)
- G. Compression Spring for F
- H. Cylinder Retainer
- I. Cylinder Housing

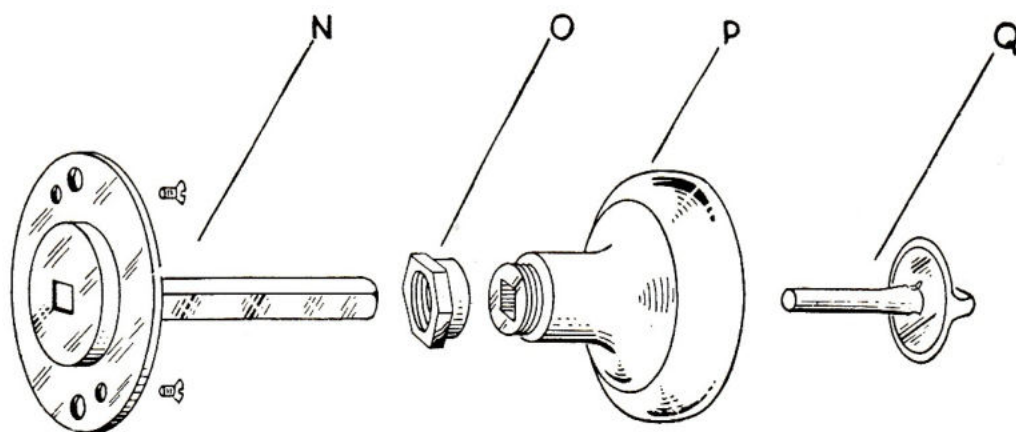




- J. Outside Knob
- K. Outside Rose
- L. Retaining Nut
- M. Latchbolt Assembly
- N. Spindle Assembly
- O. Retaining Nut
- P. Inside Knob
- Q. Turn Button

### SERVICE NOTES

1. Use  $\frac{3}{4}$ " box wrench to remove nuts L & O.
2. Use Caution when removing scalp A to release cylinder. Replace nut on cylinder housing I and tap gently with hammer handle. Pressure will push out scalp.
3. Turn button Q should not be removed from knob.

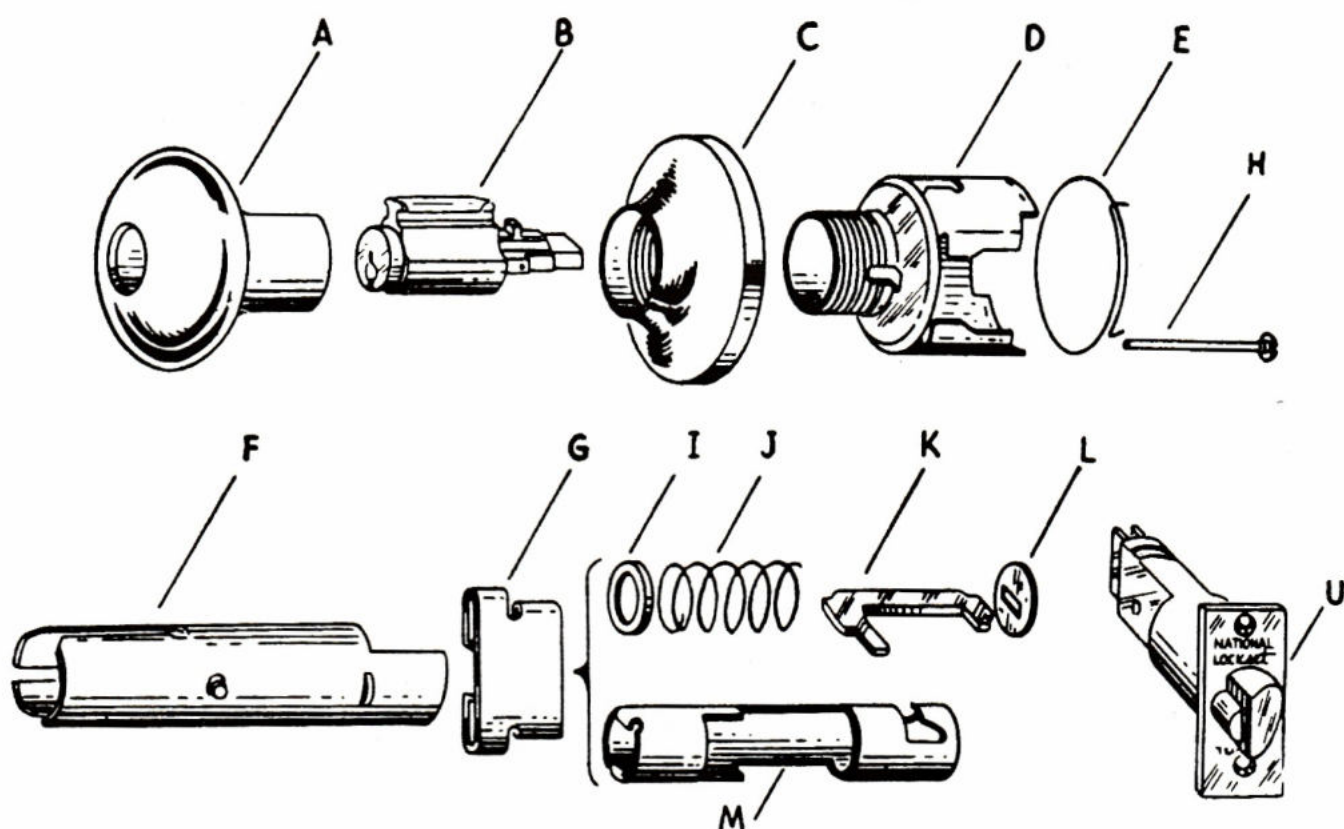




# COMPARATIVE KEY BLANK CHART FOR KEY IN THE KNOB LOCKS

NAME	ORIG.	ILCO	KEIL	TAYLOR
Arrow	*	1022	84A	102
Chesler	*	X1054K	159K	
Clinton	*	1023	154Y	123
Corbin	63 1/4	1001EG	64G	21EG
Dexter				
wafer	D3	1098X	R154R	98X
standard	D2	X1054K	159K	
condensed	D1	1054KD	I55H	54KD
Harloc	11929	1014F	168K	
Hollymade	C38	1170	170	170
Kwikset	358	1176	176	54KS
LaBelle	BS42107	1098X	R154R	98X
Lockwood	308B	1004	122	35
National(EZ)	*	*	*	*
Penn.	520B	1016N	118B	68N
Russwin	981B	1011P	88	55P
Sargent	265BU	01010	A102	050
Schlage				
wafer	920A	1307A	202C	307A
pin	923C	1145	159H	145
Skillman	*	1001EG	64G	21EG
Tegco	*	1013BF	160	60BF
Vimcar	167	1172	171	171
Weiser	1W1E	X1054W	159W	54W
Weslock	357	1175	175	175
Yale				
Home Duty	TB12	999T	20Z	14EN
Others	8	999	2B	14

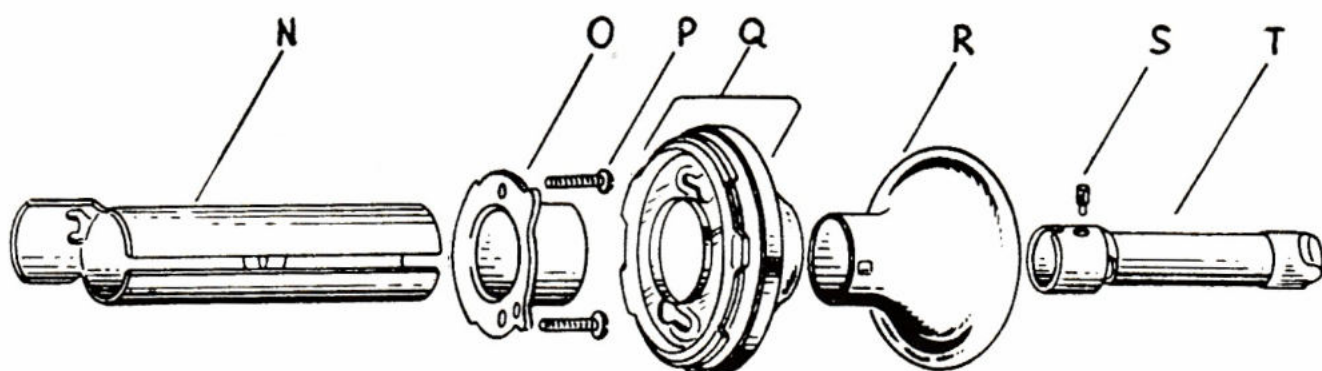
\* No number listed



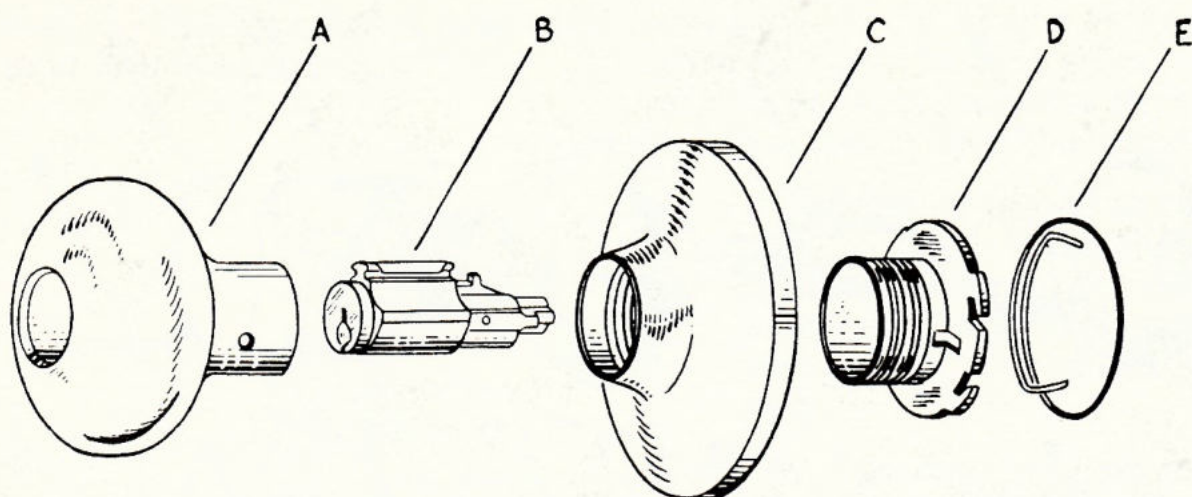
## NATIONAL SERIES "410"

Manufactured by National Lock Co., Rockford, Ill.

- |                         |   |
|-------------------------|---|
| A. Outside Knob         | L. Locking Lever Retaining Washer           |
| B. Cylinder             | M. Center Tube<br>(containing I, J, K, & L) |
| C. Threaded Rose        | N. Inside Knob Cam                          |
| D. Center Housing       | O. Cam Bearing                              |
| E. Centering Spring     | P. Clamping Screws                          |
| F. Outside Knob Cam     | Q. Snap on Rose                             |
| G. Push Plate           | R. Inside Knob                              |
| H. Retaining Screw      | S. Retaining Pin                            |
| I. Guide Washer         | T. Button Assembly                          |
| J. Locking Lever Spring | U. Latch Bolt Assembly                      |
| K. Locking Lever        |   |

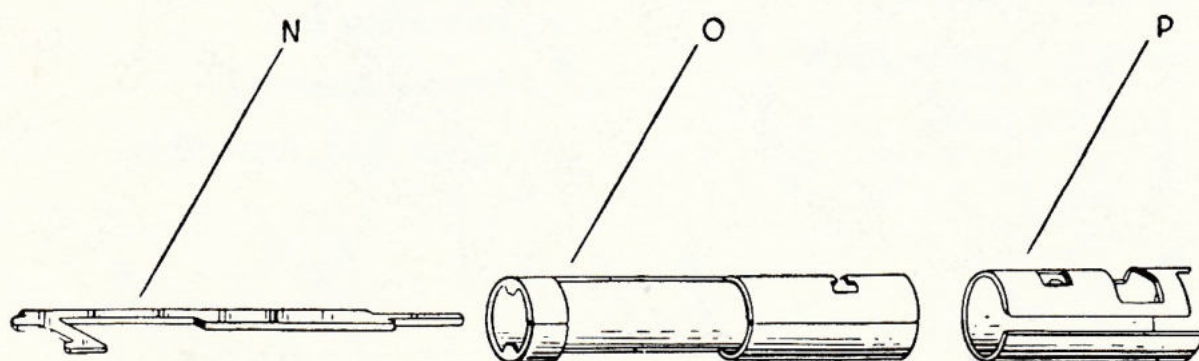


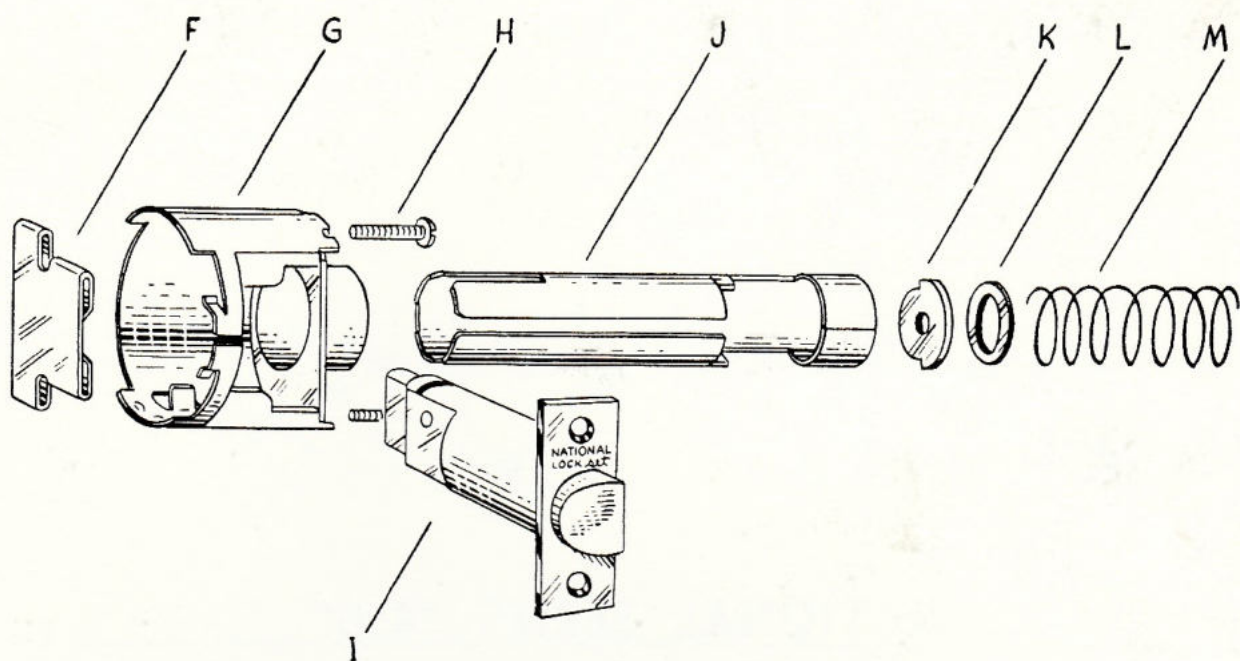




**NATIONAL SERIES 440**  
**manufactured by National Lock Co., Rockford, Ill.**  
**(MODEL SHOWN NO. 441D)**

- |                                   |                          |
|-----------------------------------|--------------------------|
| A. Outside Knob                   | L. Washer                |
| B. Cylinder                       | M. Locking Lever Spring  |
| C. Threaded Rose                  | N. Locking Lever         |
| D. Cam Bearing                    | O. Inside Knob Cam       |
| E. Centering Spring               | P. Knob Sleeve           |
| F. Push Plate                     | Q. Button                |
| G. Center Housing                 | R. Inside Rose Plate     |
| H. Retaining Screw                | S. Inside Rose (Snap On) |
| J. Outside Knob Cam               | T. Inside Knob           |
| K. Locking Lever Retaining Washer |                          |





## Removing Cylinder

1. Turn key or pick to open position. Depress retainer through hole in shank of knob.

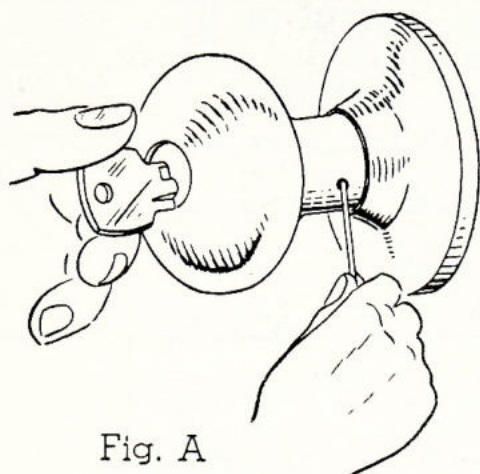


Fig. A

## Reversing Hand

1. Reverse position of cylinder. Place back in knob. Replace knob.

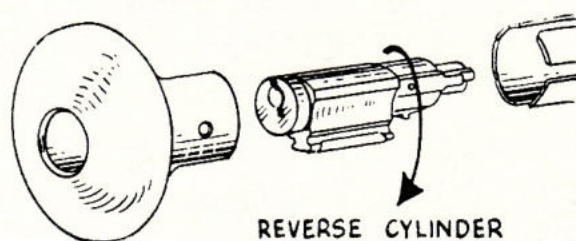
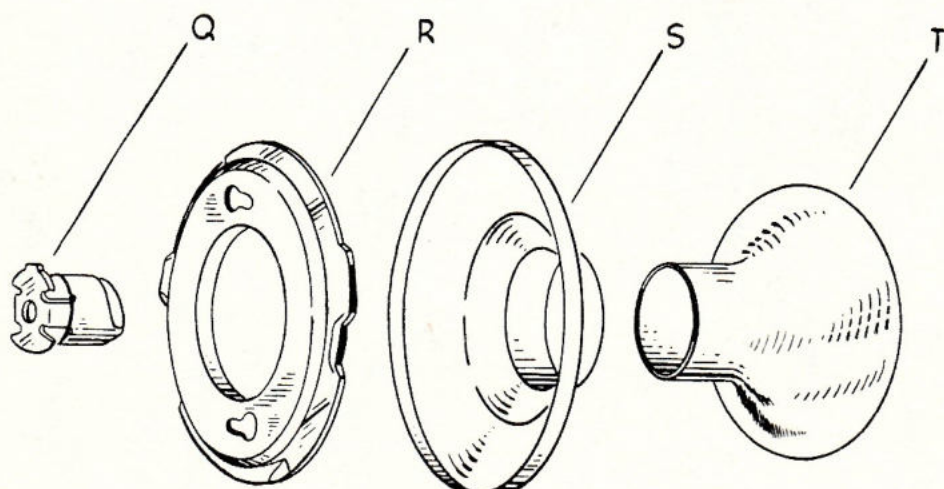
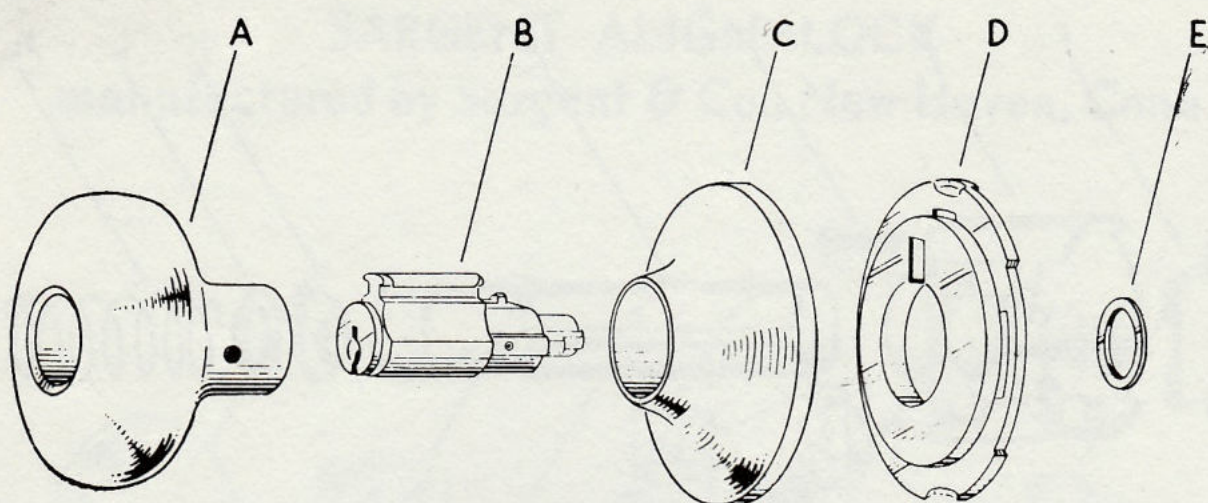


Fig. B.

2. Pull off knob. Remove cylinder from knob.



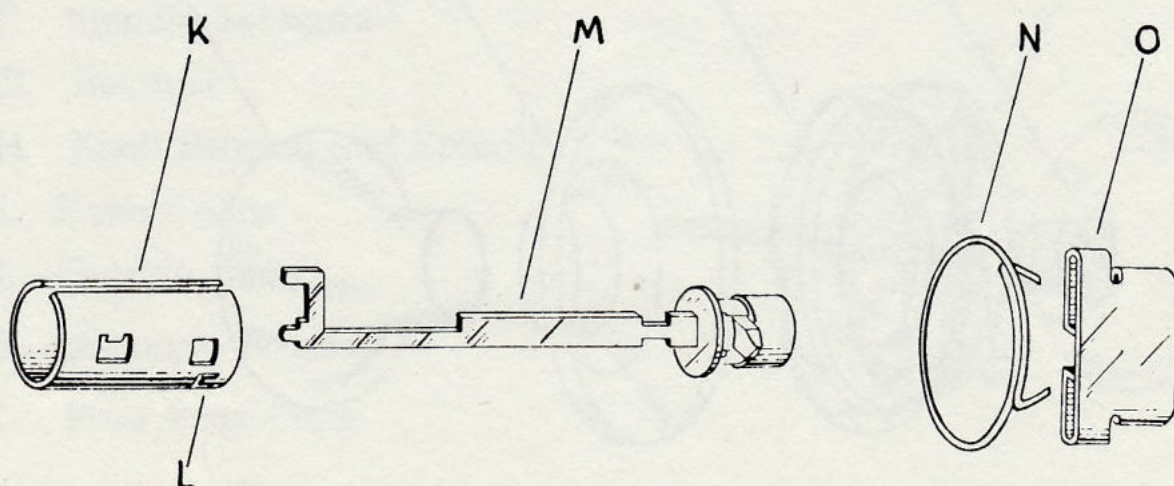


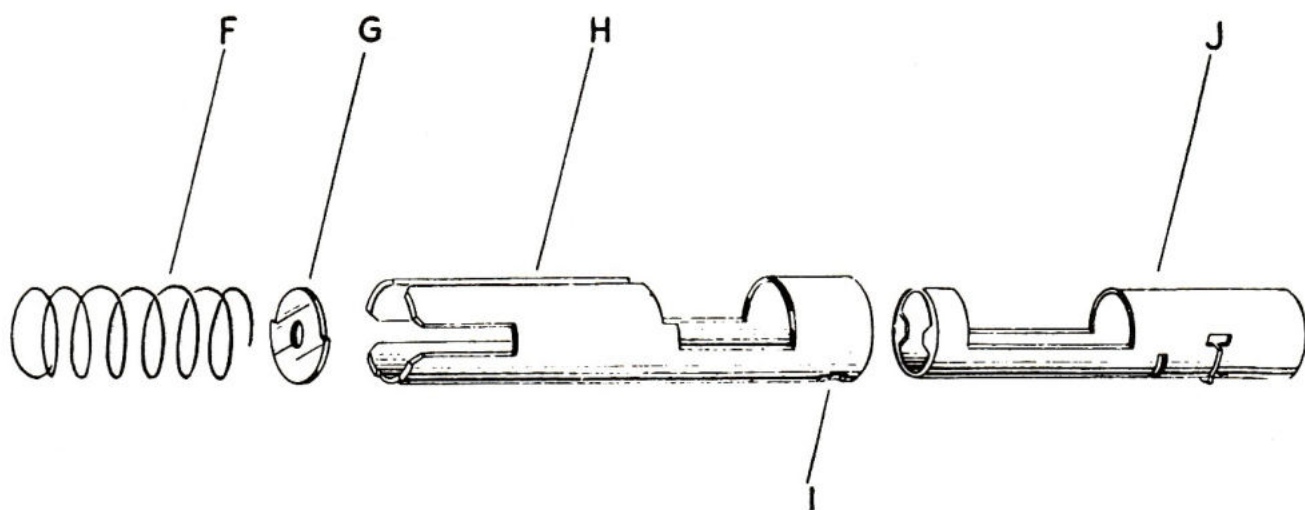


## NATIONAL SERIES "450"

Manufactured by National Lock Co., Rockford, Ill.

- |                                      |  |
|--------------------------------------|--|
| A. Outside Knob                      | L. Stop (holds push button as assembly in center tube) |
| B. Cylinder                          | M. Locking Lever                                       |
| C. Outside Rose                      | N. Centering Spring                                    |
| D. Center Housing Cover              | O. Push Plate  |
| E. Guide Washer                      | P. Center Housing                                      |
| F. Locking Lever Spring              | Q. Latchbolt Assembly                                  |
| G. Locking Lever Washer              | R. Snap on Rose Plate                                  |
| H. Outside Knob Cam                  | S. Clamping Screws                                     |
| I. Detent (holds center tube in cam) | T. Inside Rose   |
| J. Center Tube                       | U. Inside Knob   |
| K. Retaining Sleeve                  |  |

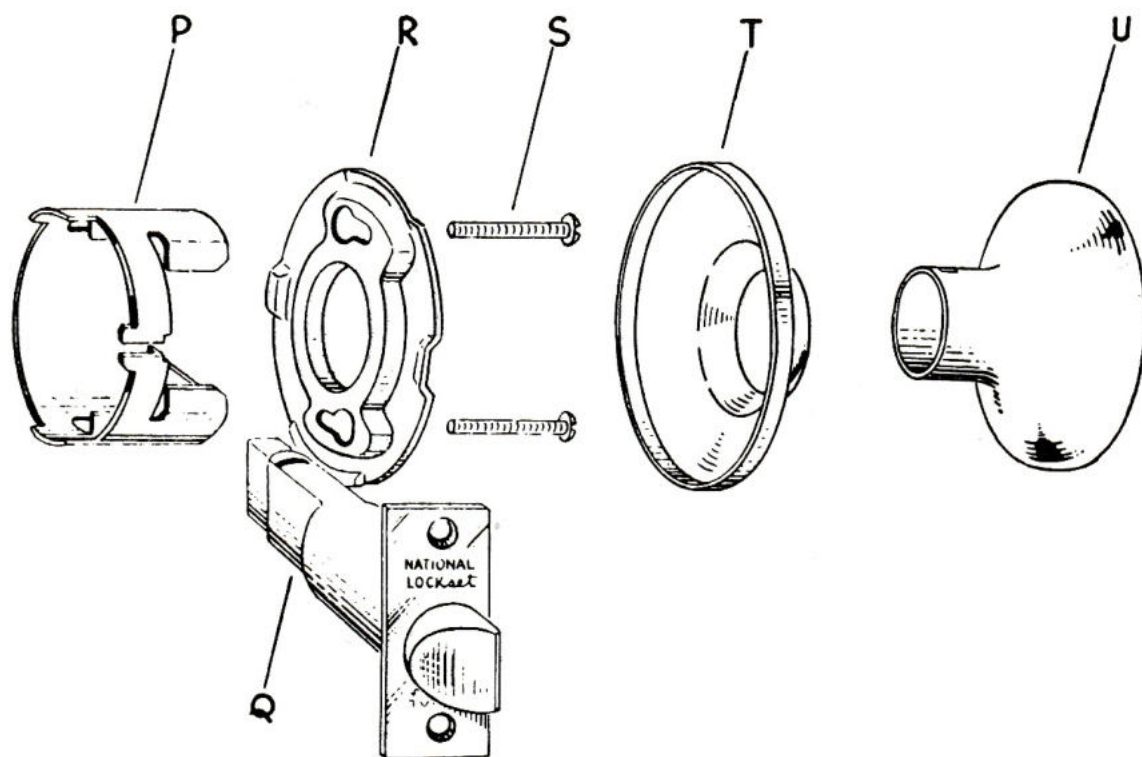
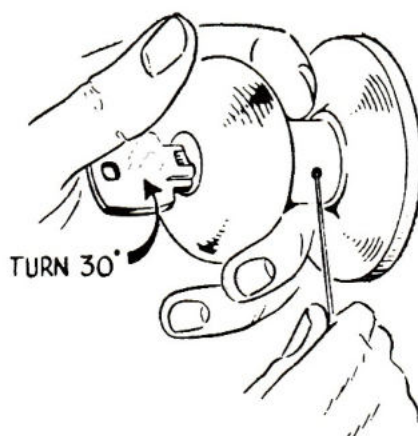




### CHANGING HAND

Turn cylinder 30 degrees, left or right. Depress pin through shank of knob. Pull out knob with cylinder. DO NOT PULL OUT KNOB AHEAD OF KEY.

With plug in neutral position, turn plug 180 degrees so that biting is up. Push knob back on tube, rotating plug to feel correct alignment of locking tab. Depress locking pin and push knob 'til it stops. Turn plug 30 degrees, depress stop and push knob all the way in.

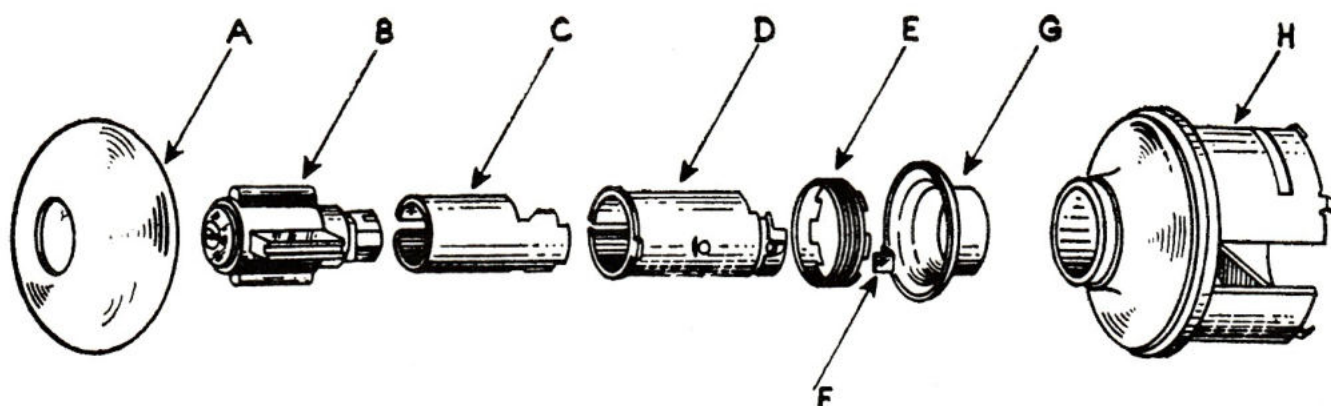




# PENN KEY IN KNOB LOCK

No. 6910

*manufactured by Penn Hardware Co., Reading, Pa.*



A. Outer Knob

B. Cylinder (Note: Keyway lies in horizontal position.)

C. Minor Spindle (Operated by cylinder)

D. Major Spindle (Operated by knob)

E. Castellated Nut (Holds cylinder in knob)

F. Safety Clip (Prevents turning of nut E.)

G. Scalp

H. Locking Assembly Housing

I. Retainer Plate for Major Spindle (D)

J. Return Spring for I.

K. Anchor Screw for I.

L. Latch Bolt Retractor Assembly

M. Knob retainer and Spring Platform for Spring in Q

N. Knob retainer spring

O. Inside Spindle

P. Spindle Bearing

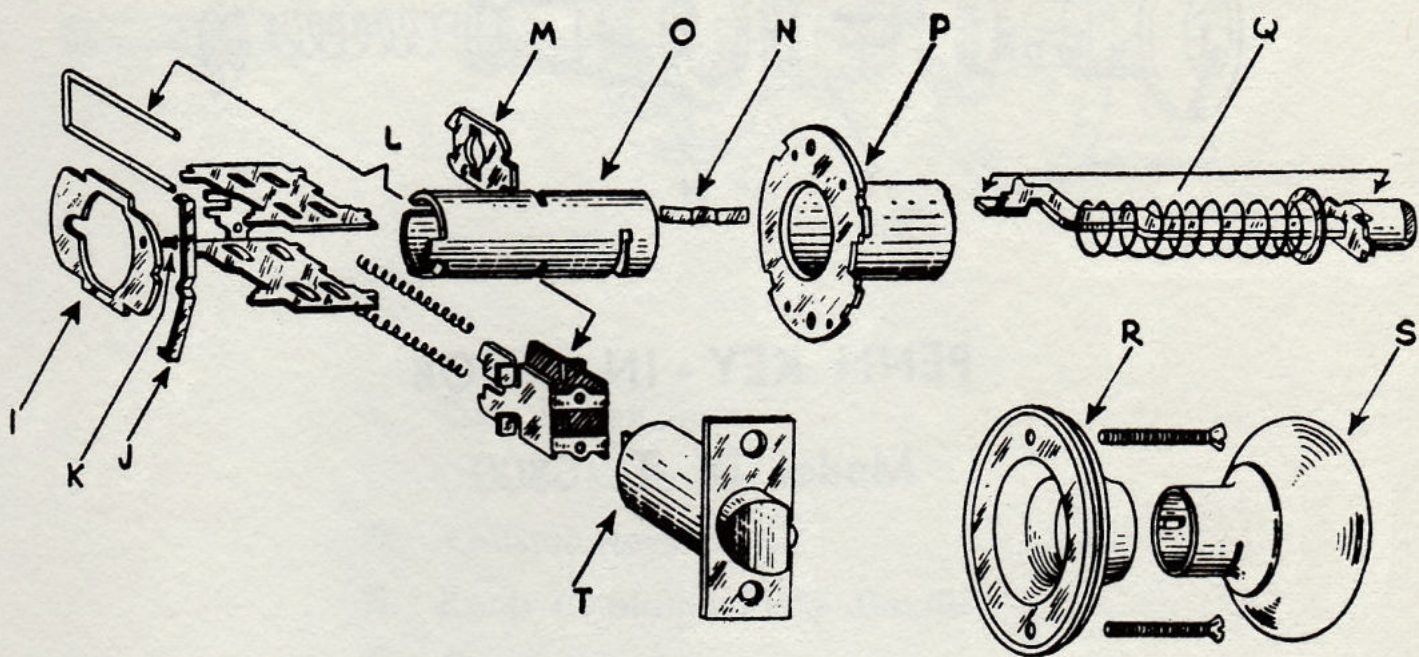
Q. Turn Button Assembly

R. Inside Rose

S. Inside Knob

T. Latch Bolt Assembly





**Note:** To remove outside knob, turn until small screw is exposed at position indicated in diagram A. When screw is out, turn lock 180 degrees and retainer plate through hole shown in diagram B. Pull on knob while depressing plate.

by M. R. French

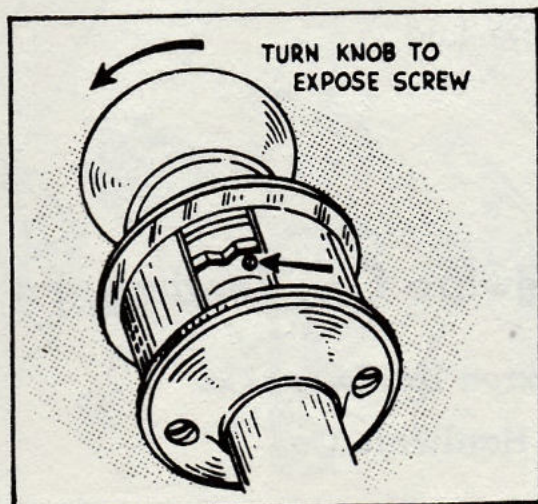


Diagram A

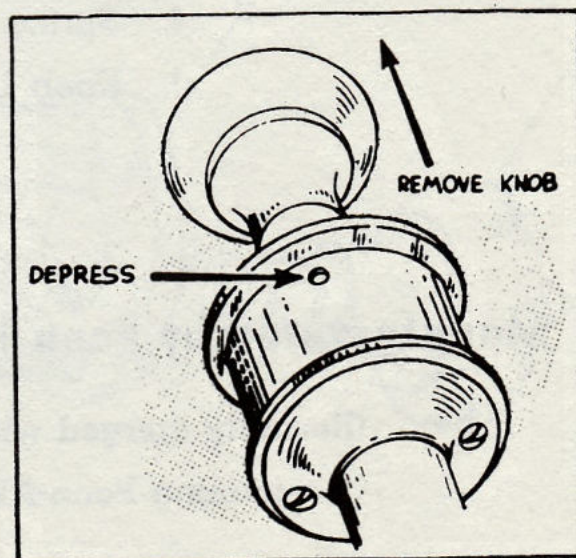
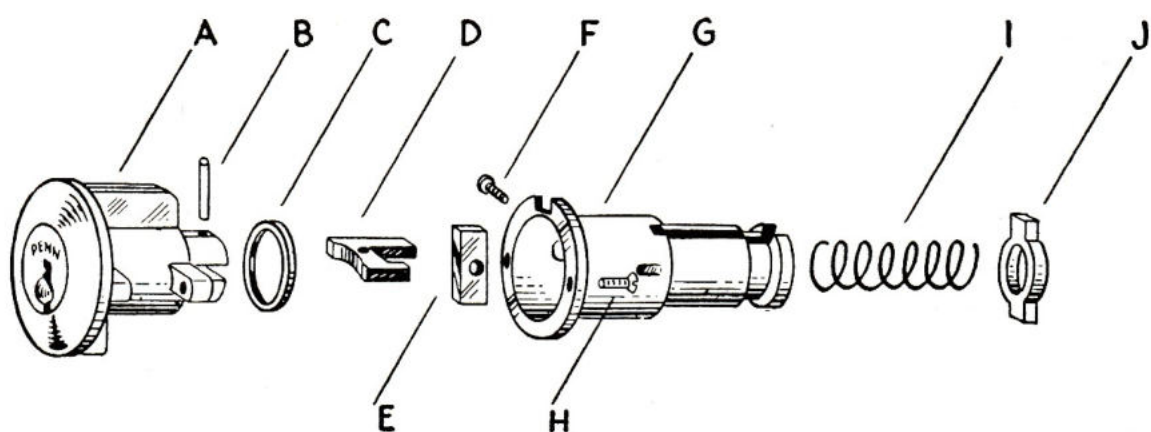


Diagram B





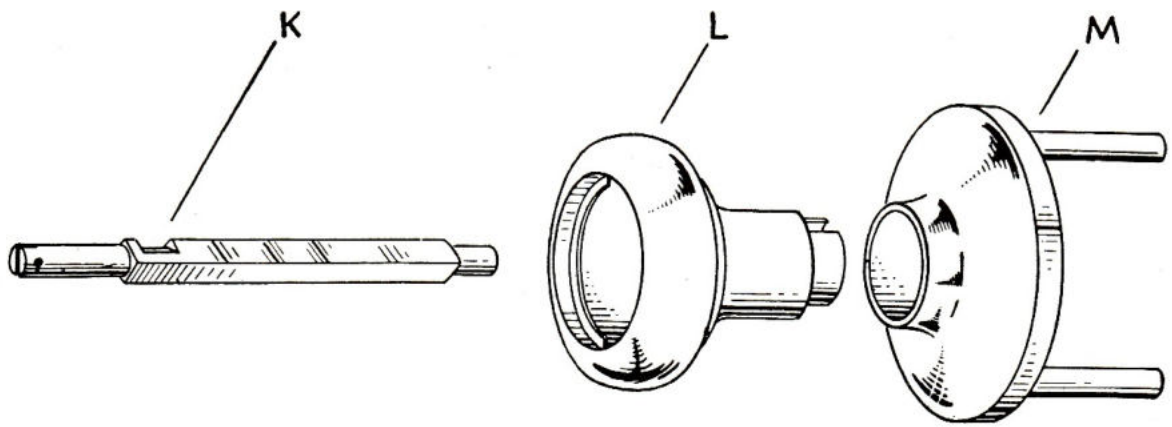
## PENN KEY - IN - KNOB

Model D. T. 6800

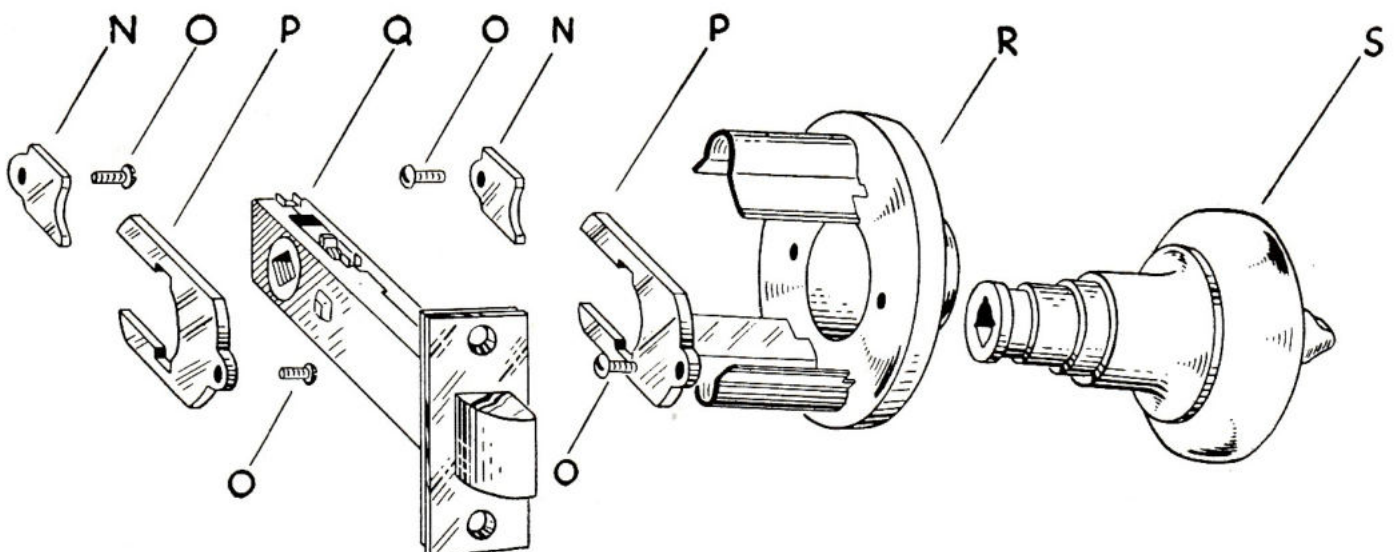
- A. Cylinder
- B. Cam Pin
- C. Plug Retainer Ring
- D. Cylinder Cam
- E. Spindle Wing
- F. Screw
- G. Knob Spindle
- H. Attaching Screw
- I. Spring
- J. Knob Locking Lug

**Manufactured by Penn Hardware Co., Reading, Pa.**

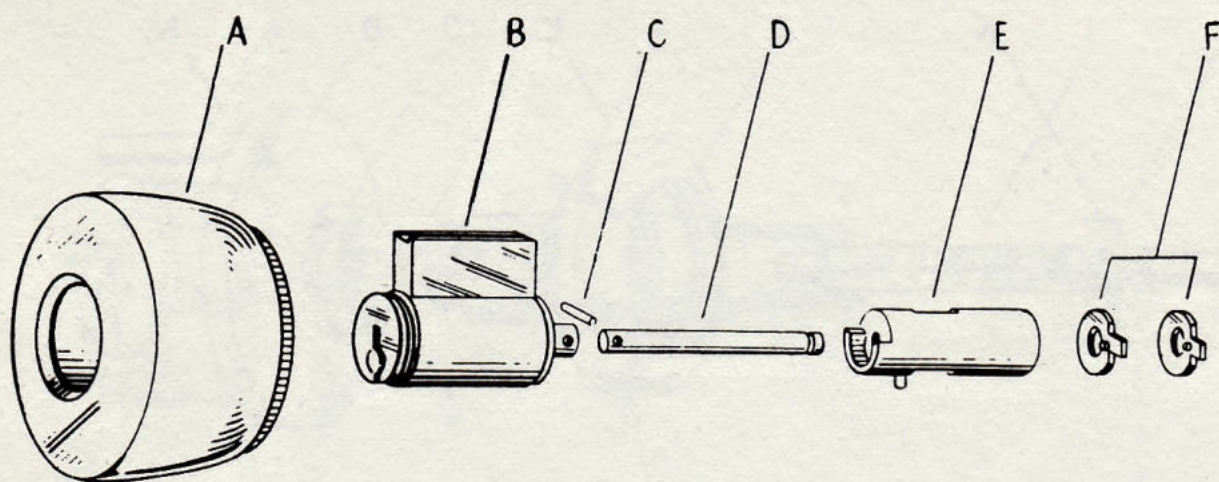
(Recently merged with Akron Hardware Co.,  
forming Penn-Akron Hardware Co.)



- K. Turn Button Stem
- L. Outside Knob
- M. Outside Rose
- N. Knob Retaining Plate (Small)
- O. Screw
- P. Knob Retaining Plate (Large)  
(contains stop for knob locking lug)
- Q. Latchbolt Assembly
- R. Inside Rose and Bracket
- S. Inside Knob Assembly







## "STILEMAKER" NO. 452 HEAVY DUTY LOCKSET

(Classroom Function)

**manufactured by Russell & Erwin Division,  
American Hardware Corp., New Britain, Conn.**

A—Cylinder Knob

B—Cylinder

C—Cam Shaft Pin

D—Cam Shaft

E—Cylinder Cam

F—Cam Clutch Plates (holds cam  
in locked or unlocked posi-  
tion.)

G—Clutch Spring

H—Retainer for C

I—Knob Shank

J—Knob Shank Locking Balls

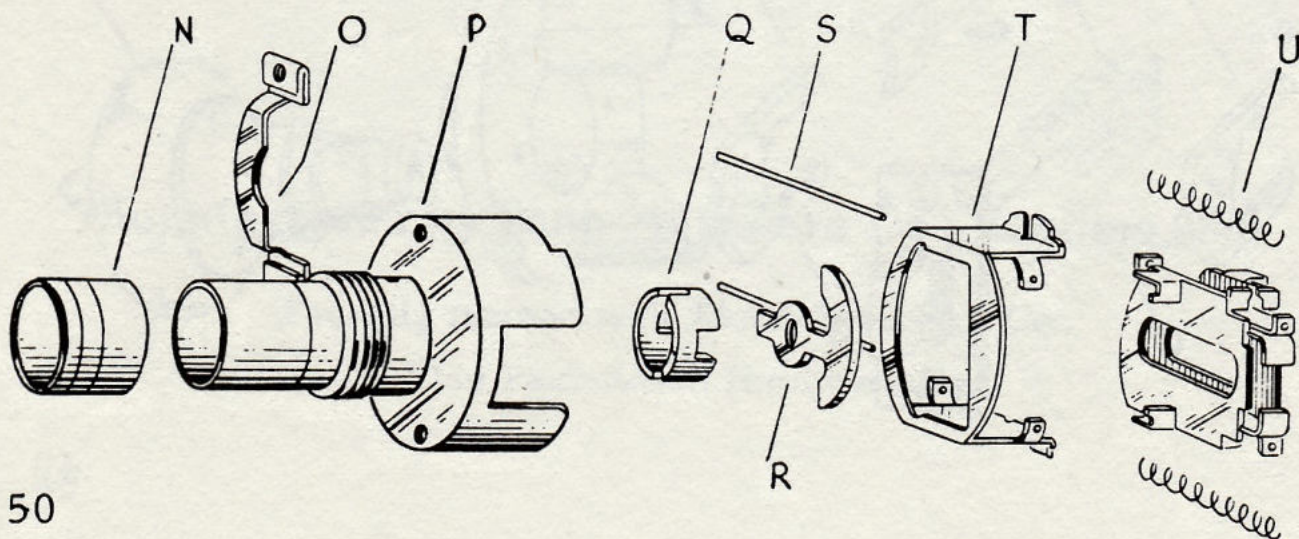
K—Retainer Ring

L—Knob Ferrule

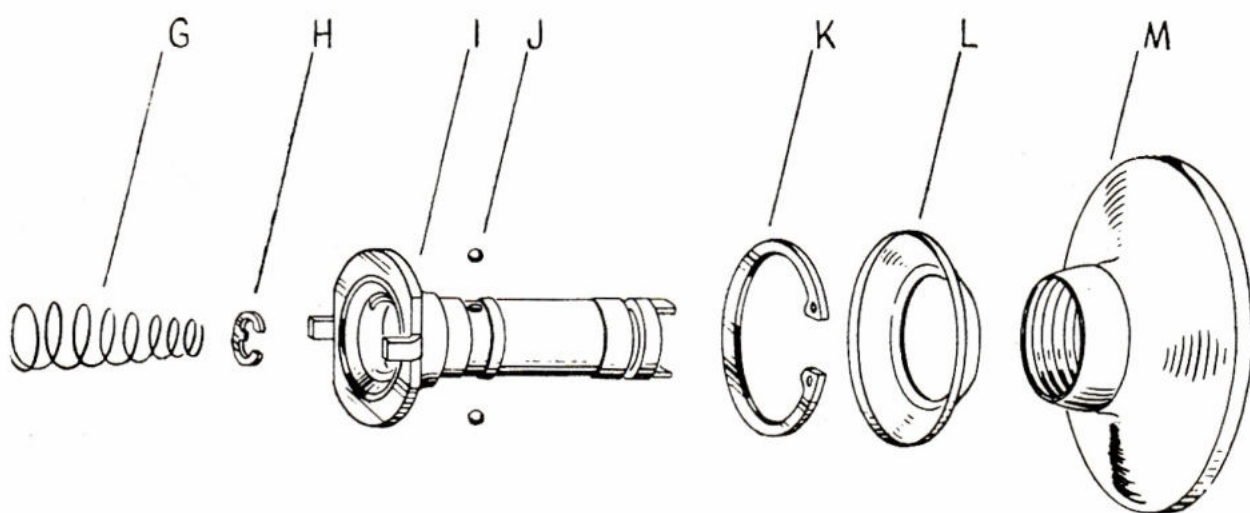
M—Outside Rose (adjustable)

N—Knob Bearing Spacer

O—Knob Shank Retainer







P—Rollback Housing

Q—Driver

R—Rollback Hub

S—Spring Guide

T—Rollback Frame

U—Rollback and Springs

UU—Latchbolt Assembly

V—Knob Shank Retainer Spring

W—Driver

X—Knob Shank Retainer (to remove knob, just slide out of slot)

Y—Knob Bearing and Flange

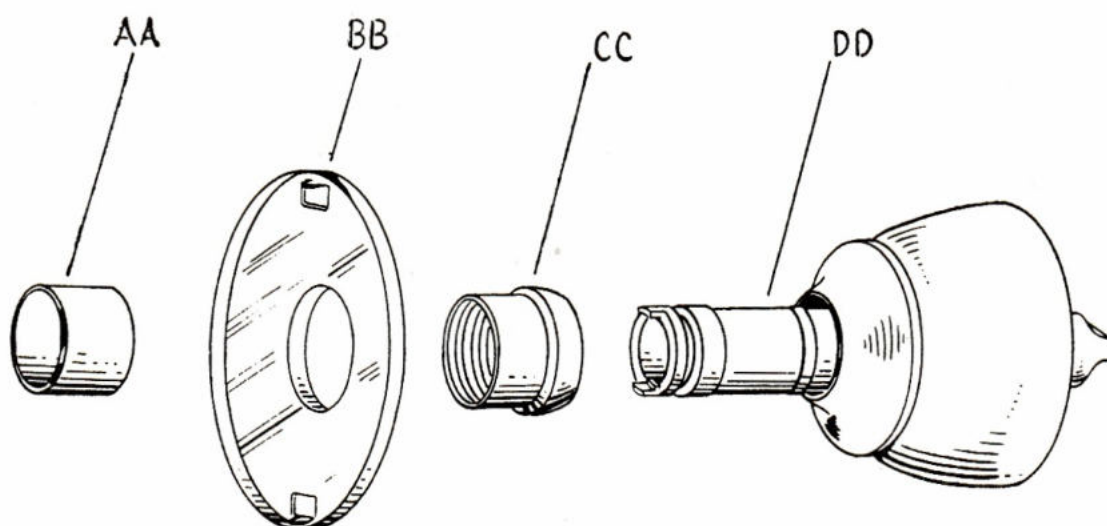
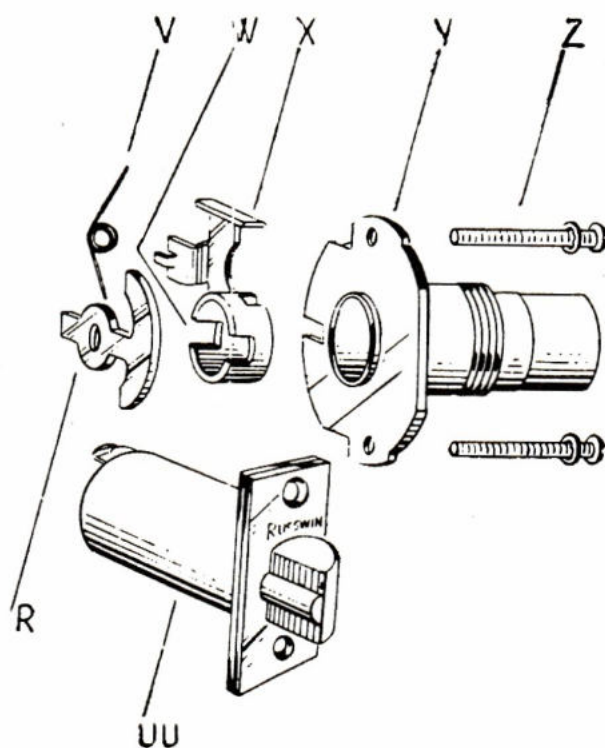
Z—Mounting Screws

AA—Knob Bearing Spacer

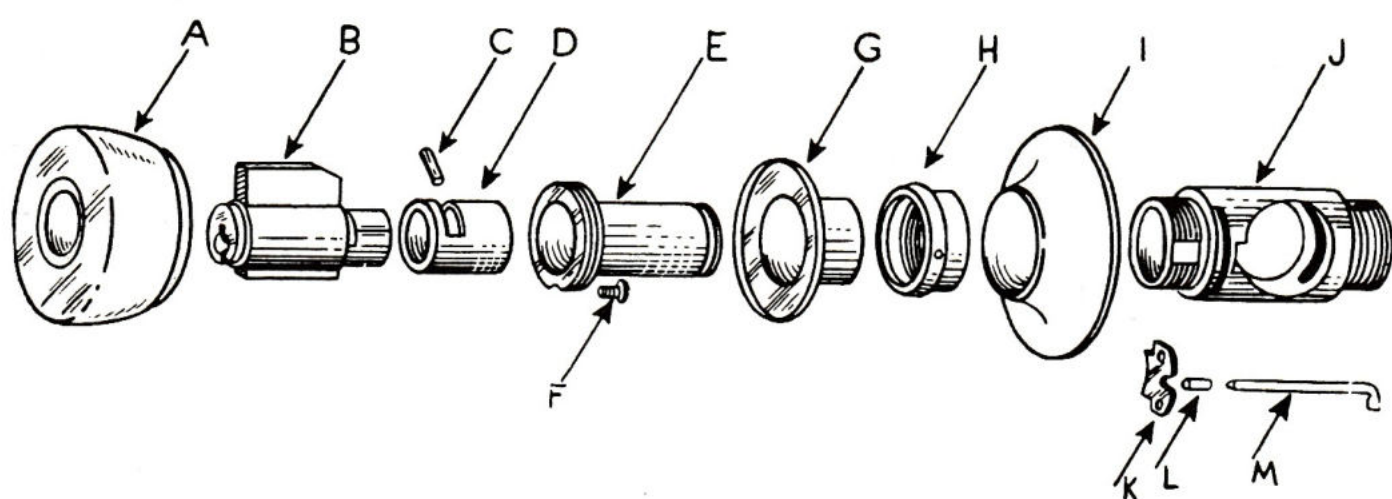
BB—Inside Rose

CC—Adjustable Spacer

DD—Inside Knob Assembly



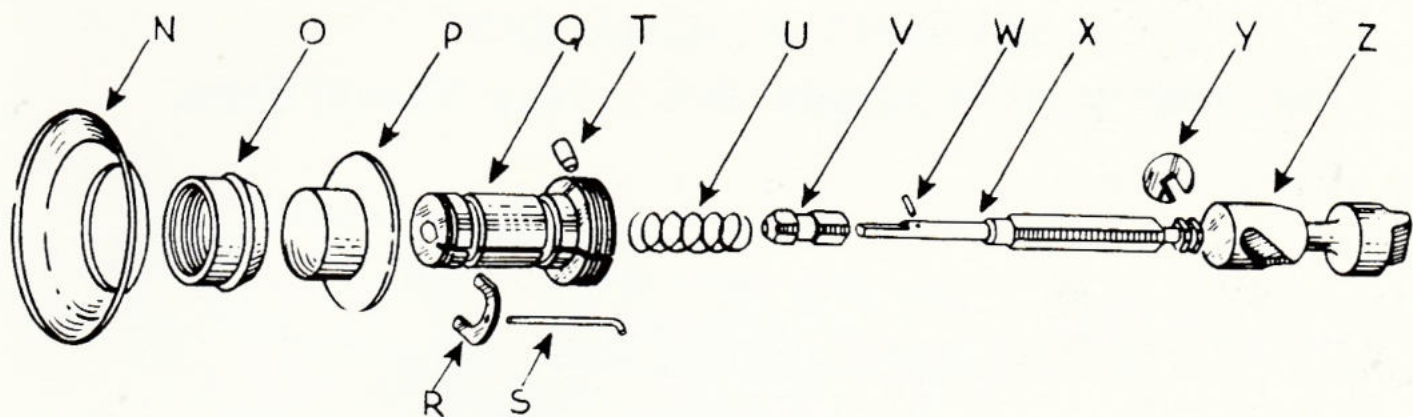




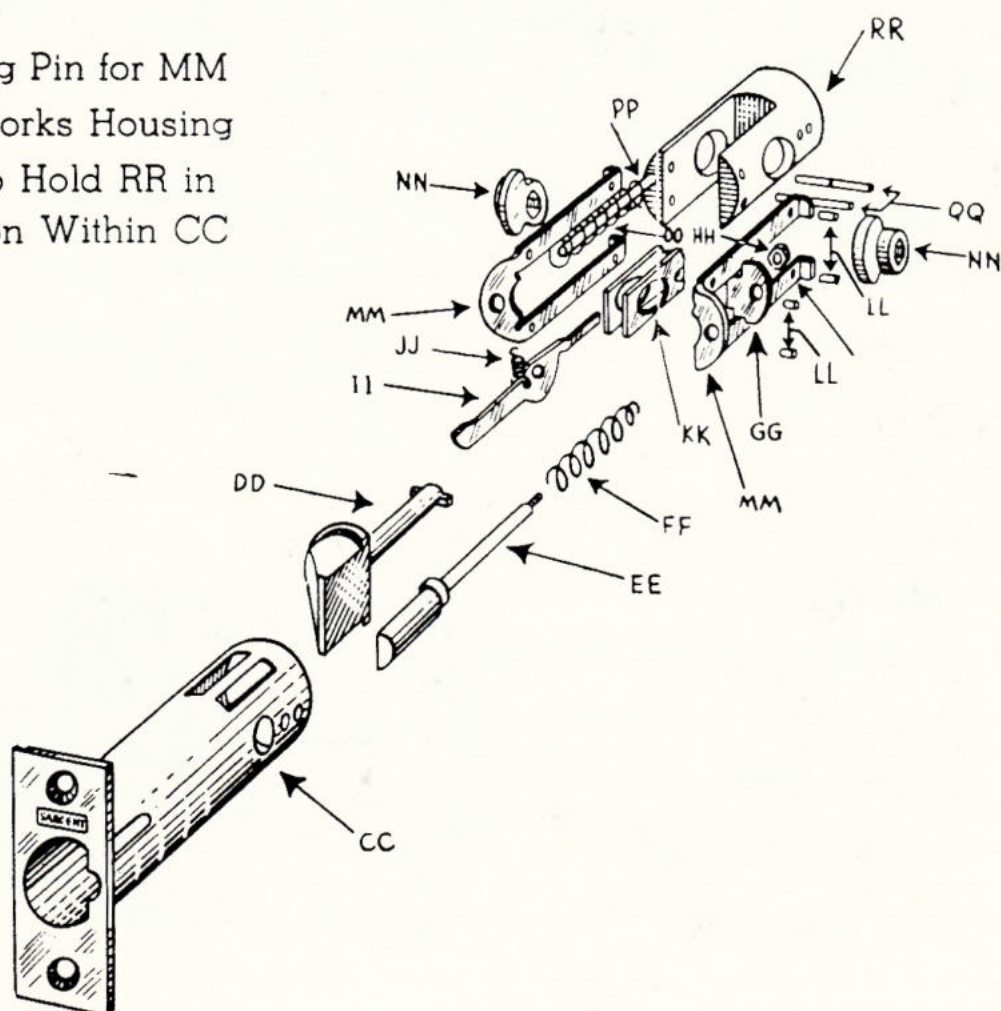
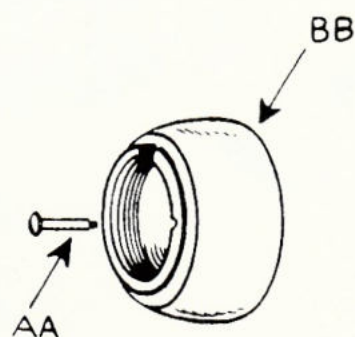
## Sargent Tubular No. 4500

- |                                   |                                    |
|-----------------------------------|------------------------------------|
| A. Outside Knob                   | Q. Shank                           |
| B. Cylinder                       | R. Knob Shank Retainer             |
| C. "Lazy Cam" pin                 | S. Keeper                          |
| D. Cam                            | T. Pin or Guide for Locking Button |
| E. Knob Shank                     | U. Spring                          |
| F. Shank screw                    | V. Sliding Spindle Segment         |
| G. Knob Sleeve                    | W. Spindle Segment Pin Stop        |
| H. Adjusting Ferrule              | X. Spindle                         |
| I. Rose                           | Y. Spindle Collar                  |
| J. "Bridge" or Knob Works Housing | Z. Locking Button                  |
| K. Knob Shank Retainer            | AA. Stop Pin for Knob Shank        |
| L. Anchor Pin                     | BB. Inside knob                    |
| M. Keeper                         | CC. Latchbolt Housing              |
| N. Inside Rose                    | DD. Latchbolt                      |
| O. Adjustable Ferrule             | EE. Deadlatch                      |
| P. Knob Sleeve                    | FF. Spring                         |

**manufactured by Sargent & Co.  
New Haven, Conn.**



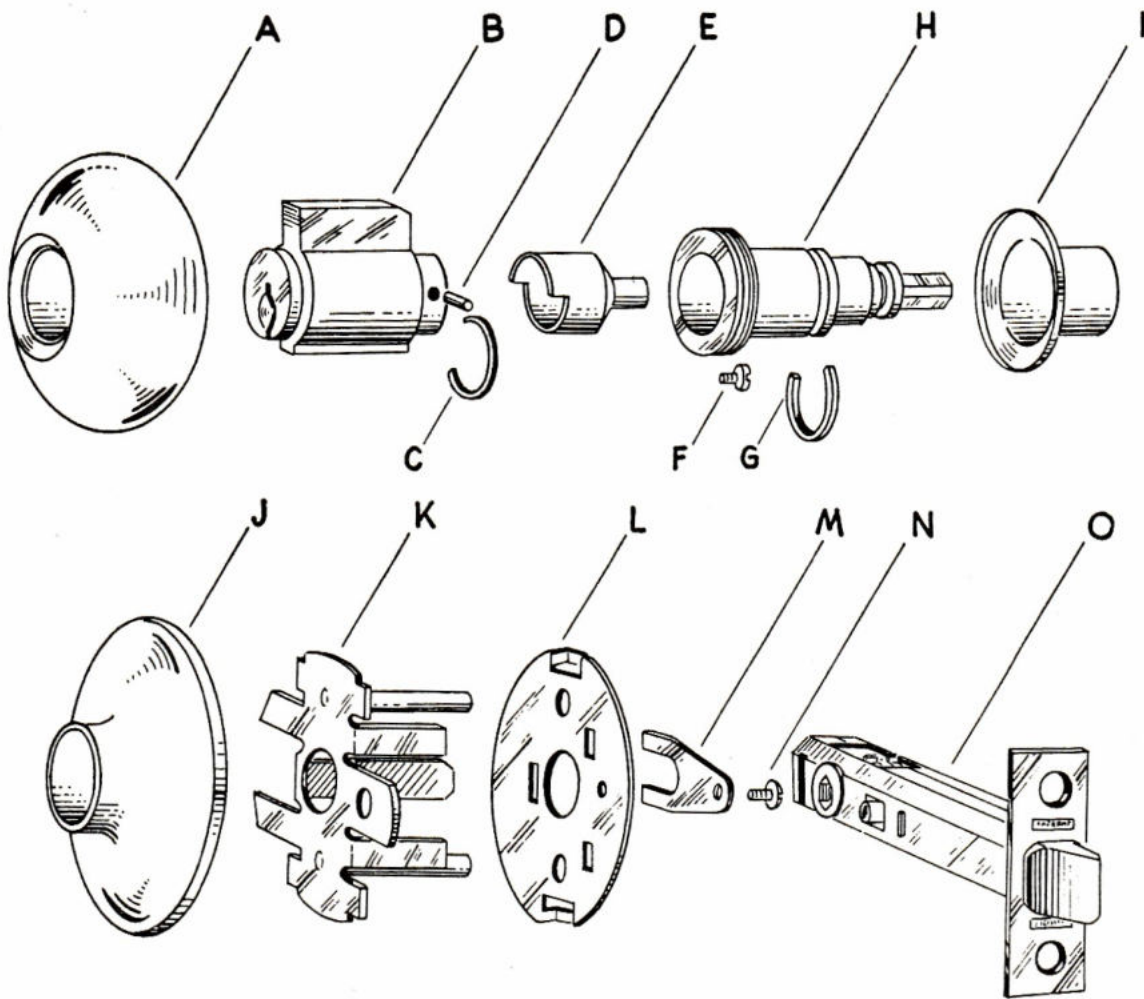
- GG. Latchbolt Carrier  
 HH. Nut for Deadlatch  
 II. Deadlatch lever  
 JJ. Lever Spring  
 KK. Hub Spacer  
 LL. Rivet Pins (Holds MM and GG segments together.)  
 MM. Latchbolt Carrier  
 NN. Hubs  
 OO. Spring  
 PP. Aligning Pin for MM  
 RR. Hub Works Housing  
 QQ. Pins to Hold RR in Position Within CC





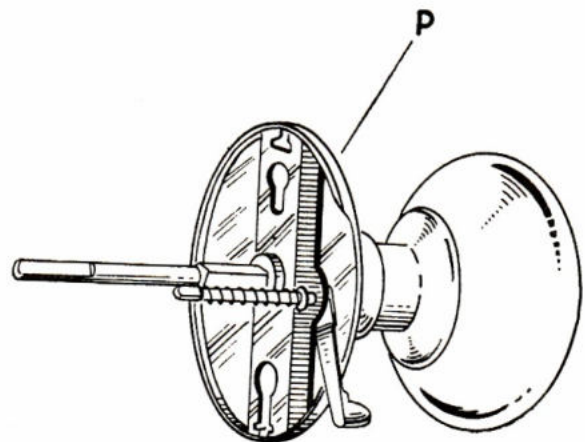
# SARGENT ALIGNALOCK

manufactured by Sargent & Co., New Haven, Conn.



- A. Outside Knob
- B. Cylinder
- C. Retainer Ring
- D. Cam Stop
- E. Cam
- F. Spindle Set-screw
- G. Retainer
- H. Knob Bearing and Spindle
- I. Knob Collar
- J. Outside Rose
- K. Aligning Bracket
- L. Rose Back Plate

- M. Knob Retainer
- N. Knob Retainer Screw
- O. Latch Assembly
- P. Inside Knob Assembly



# How To Key, Master Key, and Change Combinations On The "A" Schlage M45 Wafer Locks



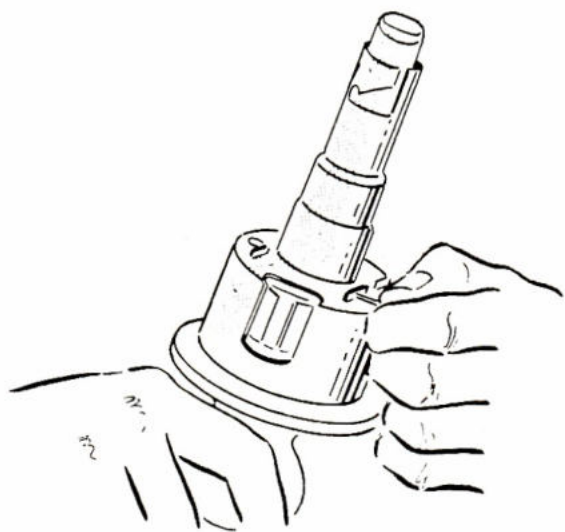
The Schlage "A" lock, Model 45 was first made in 1948 and is today one of the most popular cylindrical locks on the market. It differs somewhat from the models prior to that year and therefore requires a different approach for servicing and keying. The exploded view above shows the major components of Model M45. The locksmith, of course, deals usually with the largest member which contains the keyway unit and lock housing.

## **Disassembling and Removing Keyway**

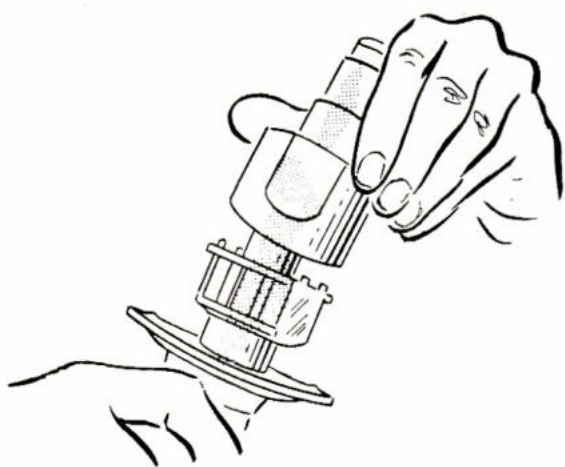
Before the locksmith can work on the keyway unit, he must disassemble the lock. The following steps should be followed in detail with emphasis on the fact that **NO FORCE SHOULD BE USED**. Although all parts are rugged stampings, it must be remembered that brute strength may distort or bend parts that are precision made.



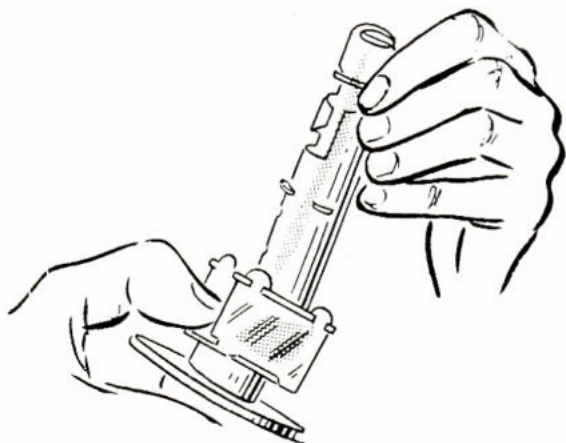
Step 1 Pull out cotter pins that hold lock housing in place.



Step 2. Lift off lock housing. If you turn it a little as you pull, it comes off easily.



Step 3. Remove spindle and plunger—make sure the plunger is in the unlocked position. Press



the slide all the way in with your thumb. Now tilt the spindle towards the latch opening. First pull out the button, then the spindle.

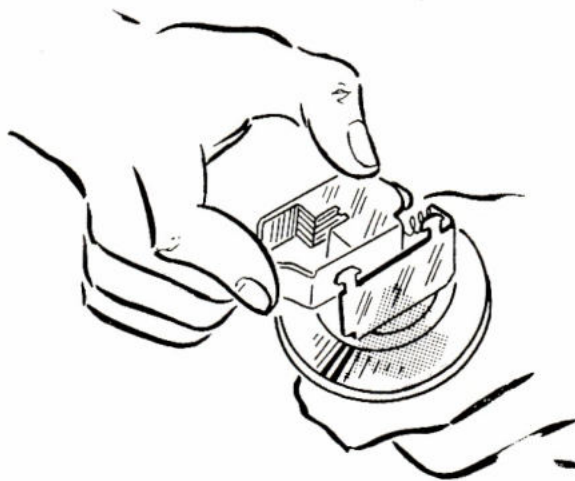
NOTE: Force should never be used to remove spindle and plunger. Take it easy. The units will come apart easily if you follow directions carefully.

Step 4. Remove hub plate by pressing outward with thumbs on two lugs on one side, and at the same time, lifting up on the hub plate.

Press hard on the lugs. Do not use pliers or screwdriver to force them outward!

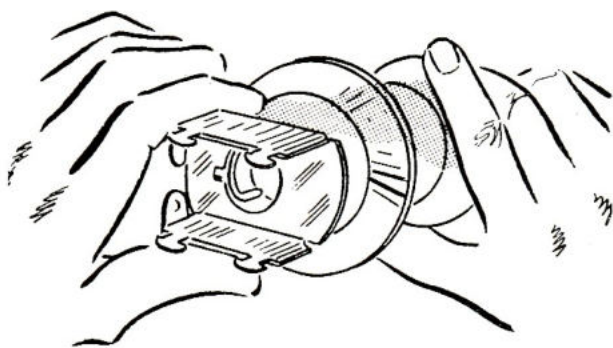


Step 5. Lift out the slide and compression springs carefully.

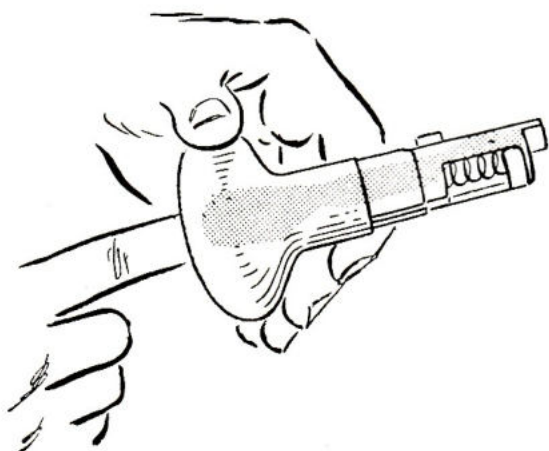


Step 6. Remove the outer knob by applying a downward pressure

and turning the knob until it is free from the hub.



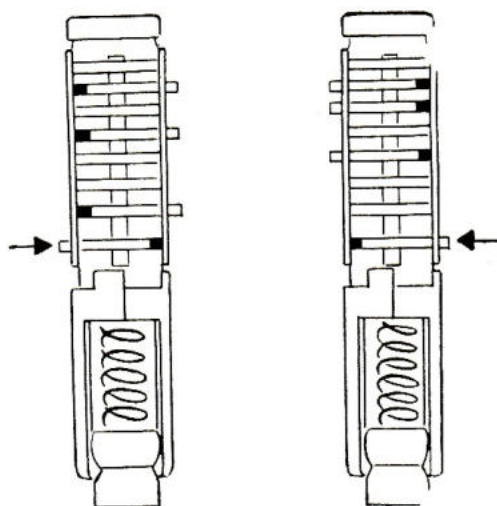
Step 7. Push the keyway right out of the spindle with your finger.



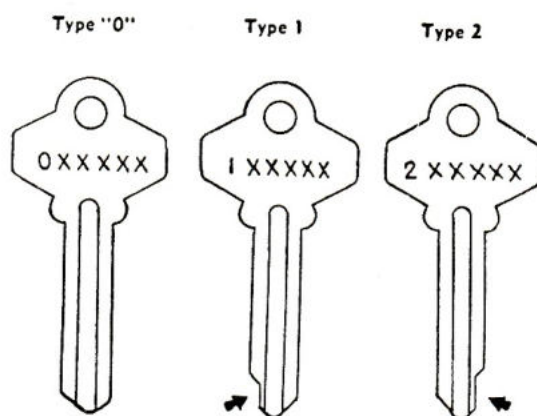
### How to Tell Apart the Different Types of Keyways, Keys, and Wafer Tumblers

Always start by holding the keyway unit in the standard position, that is with the cap (keyhole) end pointing upward and with rounded sides of the wafer tumblers toward you (the spring rack away from you). If the master Tumbler (arrow) sticks out to your left, you are holding a Type 1. If it sticks out to your right, you have a Type 2.

When there are no wafer tumblers in the keyway, the two types can be distinguished by the position of the wide slot in the Master row. If the wide slot in the Master row is to your left, you have a Type 1 keyway. If it is to your right you have a Type 2.

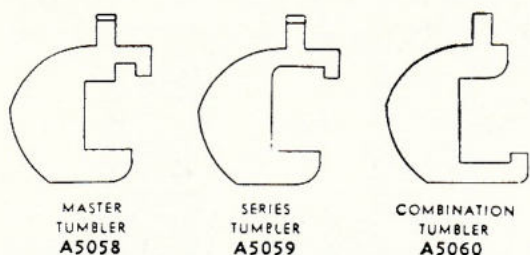


Likewise hold the key so that it can be pushed into a keyway unit held according to the directions above—that is, with the bow up and the numbered side facing you. (The trade mark "Schlage" should be on the side away from you.) If there is no tip cut you are holding a Type O key. If the tip cut is at your left, you have a Type 1 key. If the tip cut is at your right, you have a Type 2 key.



Examining the tumblers, you will see there are three different kinds as shown in the illustration. The Master Tumbler, found in the bottom or Master row of the keyway, is so shaped that the spring keeps the tip sticking out of the side of the keyway until it can be pulled back by a key with the correct tip cut.



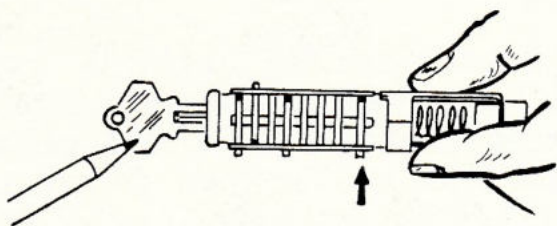


The Series Tumblers are of different shape, but are likewise so made that they stick out from the keyway until pulled in by the key. However, Series Tumblers work in the opposite direction from the Master Tumbler. When the proper key is pushed into the keyway, the Series Tumblers are drawn back in by the uncut portions of the key.

Combination Tumblers are so shaped that the springs hold them in the keyway unless they are forced out by the uncut portions of a key. When the correct key is pushed all the way into the keyway, the Combination Tumblers rest on the cuts of the key with their tips withdrawn into the keyway.

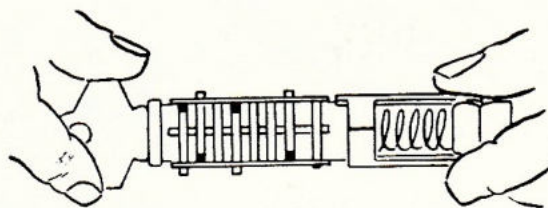
### Fitting the Key

Step 1. Take a key blank and push it part way into the keyway and scribe a mark on the side of the blank that corresponds to the side of the keyway where the Master Tumbler (arrow) sticks out. Remove blank and file tip on the scribed side enough so that the

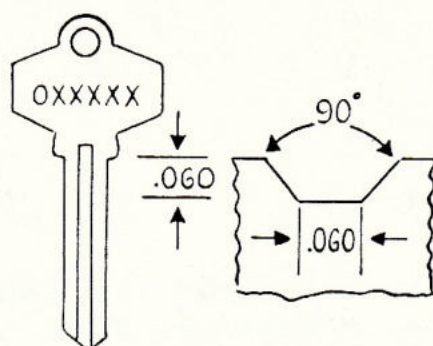


blank goes all the way into the keyway, pulling the Master Tumbler all the way into the keyway.

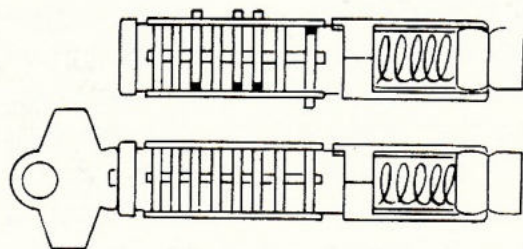
Step 2. After this tip cut has been made, push the blank all the way into the keyway and note where the tips of the Combination Tumblers are pushed out on each side. At each of these points, file a notch on the key blank.



All of these notches or cuts have the same depth. Every one of them is .060" deep. They are 90° V-shaped, with a flat bottom to take the flat edge of the tumbler.



Step 3. In the keyway shown below without a key, note how the tumblers stick out above the keyway. These are Series Tumblers. When the proper key has been pushed in, as in the keyway at bottom, the Series Tumblers are pulled in flush to the keyway by the uncut portions of the key.





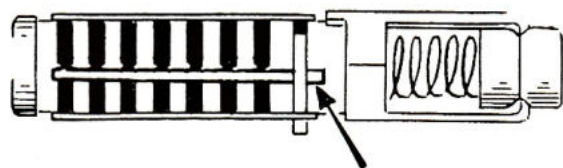
When the correct key is in the keyway, all tumblers are lined up so that the keyway may turn freely.

Schlage M-45 keyway units operate on four Combination Tumblers (the ones that stick out from the keyway when the key blank is pushed in). These Combination Tumblers are held in the keyway by springs unless the tips are forced out by the uncut portions of a key that does not fit properly.

### **Changing M-45 Wafer Tumbler Combination for a New Key or to Key Alike**

To change the combination of a Schlage M-45 lock, rearrange the wafer tumblers (except the Master Tumbler, which is never moved). CAUTION: Be sure that one or more digits in the combination are even (See SCHLAGE 6-DIGIT CODE SYSTEM following this section for an explanation of odd and even numbers in the combination.)

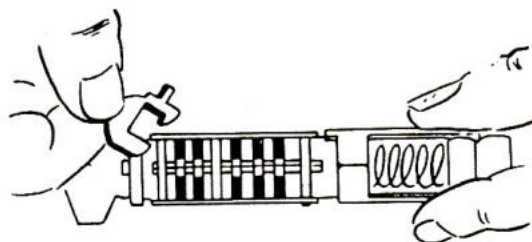
Step 1. To set up the keyway to a key provided by the customer—remove all springs and tumblers except the Master. Springs are easily lifted off with tweezers, allowing tumblers to be pulled out from opposite side of the plug.



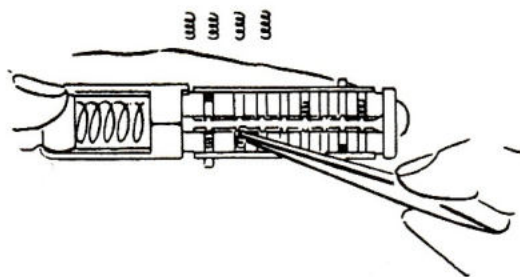
#### **Master—Do Not Remove**

Then, push the key into the keyway. Of course, a Type 1 keyway cannot be set up to fit a key that is tip cut for a Type 2 keyway. A keyway must be supplied that is the same type as the customer's key.

Step 2. Now put in the Combination Tumblers over the cuts of the key. Then remove key and place Series Tumblers in the slots that are still open. Remember that Series Tumblers can operate only when hooked through the long slots of the keyway. They are always turned the opposite way from the Master Tumbler.



Step 3. When all the tumblers are in the slots, place a finger over them to prevent their falling out. Turn over the keyway, and replace the springs.

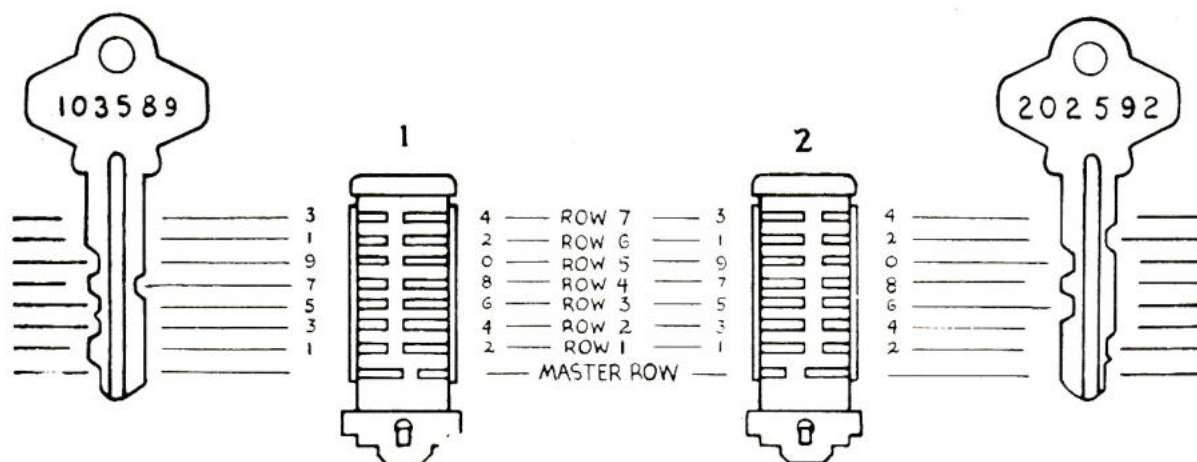


Schlage springs for wafer tumblers are special in diameter and length. Do not use any others. Be sure to seat each spring firmly on its lug and check to see that it is hooked properly on the wafer tumbler. When using tweezers do not crush the springs.

In the event that a customer does not provide a key when he wants a combination changed, merely rearrange the combination tumblers in different slots and then proceed to fit a key to the keyway in the regular fashion.



## Schlage 6-Digit Code System



Schlage M-45 keys all have 6-digit code numbers. The first digit tells you the type of key and keyway, the second locates the Series Tumblers, and the last four digits are the slot numbers of the Combination Tumblers. This system makes it easy for you to cut a new key without having either the old key or the lock in your possession. Illustration above shows the numbering of keyway slots and rows so that you can see how it works out for both Type 1 and Type 2.

### The First Digit Indicates the Type Key and Keyway

When the first digit is "1", it means a Type 1 key (tip cut on left) used with a Type 1 keyway with a Master Tumbler in the Master Row.

"2" means a Type 2 key (tip cut on right) used with a Type 2 keyway with a Master Tumbler in the Master Row.

"3" means a Type 1 key (tip cut on left) used with a Type 1 keyway with a Series Tumbler in the Master Row.

"4" means a Type 2 key (tip cut on right) used with a Type 2 keyway with a Series Tumbler in the Master Row.

"0" means a Grand Masterkey without tip cut. Used for both Type 3 and Type 4 keyways.

### The Second Digit Indicates the Series Tumblers

When the second digit is "0", there are three Series Tumblers

occupying all the slots above the Master Row that are not filled with Combination Tumblers.

When the second digit of the code number is a figure from "1" through "7", there is only one Series Tumbler, and it is placed in the row with the corresponding number.

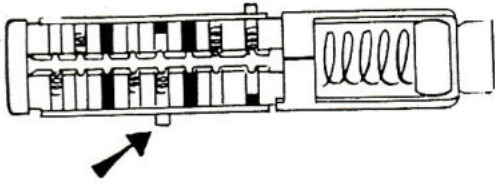
When the second digit is "8", there are no Series Tumblers, and any of the seven rows above the Master Row may contain a Combination Tumbler, up to a maximum of four. (You will find this only in a very unusual type of masterkeyed installation.)

### The Digits After the First Two Indicate Combination Tumblers

All remaining digits, that is the last four in the M-45 code number, are the numbers of the slots in which Combination Tumblers are hooked. They also refer to the corresponding position of the notches on the key.



## Masterkeyed Wafer Tumbler Units



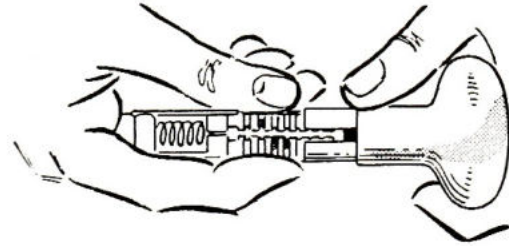
It is usually possible to tell a mastered keyway unit at a glance because there is only one Series Tumbler in the top seven rows of the keyway. The above illustration shows a mastered keyway unit with an arrow pointing to the only Series Tumbler in the keyway.

Here is the reason one Series Tumbler is left in the keyway. As you know, Combination Tumblers rest on the cuts of the key and allow the plug to turn unless they are pushed out by the uncut portion of the key. Therefore, a blank with the tip cut and all fourteen Combination cuts could turn any mastered keyway not secured by a Series Tumbler. However, one Series Tumbler in the keyway effectively secures the keyway against such a pass key.

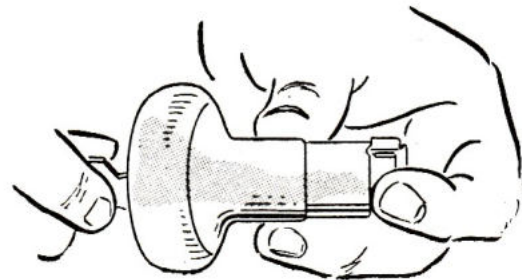
When you go about changing combinations in a set of mastered keyway units, the one Series Tumbler must remain in the same location. Combination Tumblers may be shuffled into any arrangement you wish and corresponding new keys may be made . . . without any necessity for changing the masterkey. All that is necessary for the Masterkey to work, is to make sure that it has a Combination cut in every location where any keyway in the set has a Combination Tumbler.

## Reassembly of Schlage M-45 Locks

Step 1. Reassembly should be done with care. Be sure all tumblers are held down while inserting the keyway. Always try the key in the knob unit to be sure it turns the keyway freely and easily.



Step 2. Leave the keyway turned so that the overhanging flange of the keyway is directly underneath the overhanging flange of the spindle.

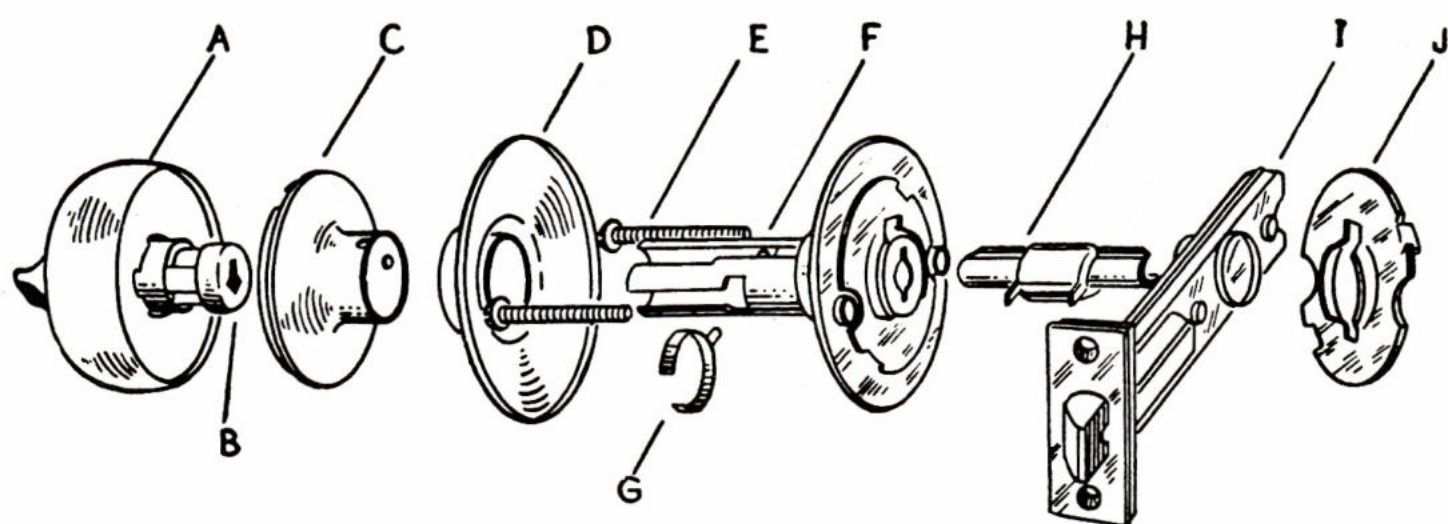


The rest of the steps in assembly are the reverse of the instructions given under DISASSEMBLY.

Start with step 7 and work backwards, to step 6 and so forth. Remember the same warning applies: DO NOT USE FORCE!

Once you have mastered the instructions in these pages you will be able to disassemble, key, master key, key alike and change combinations on any Schlage M45 wafer lock with speed and accuracy.



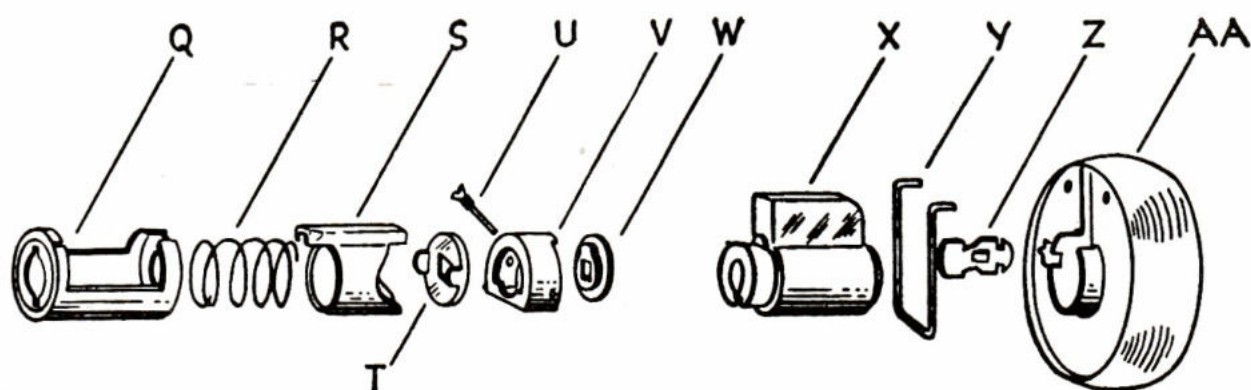


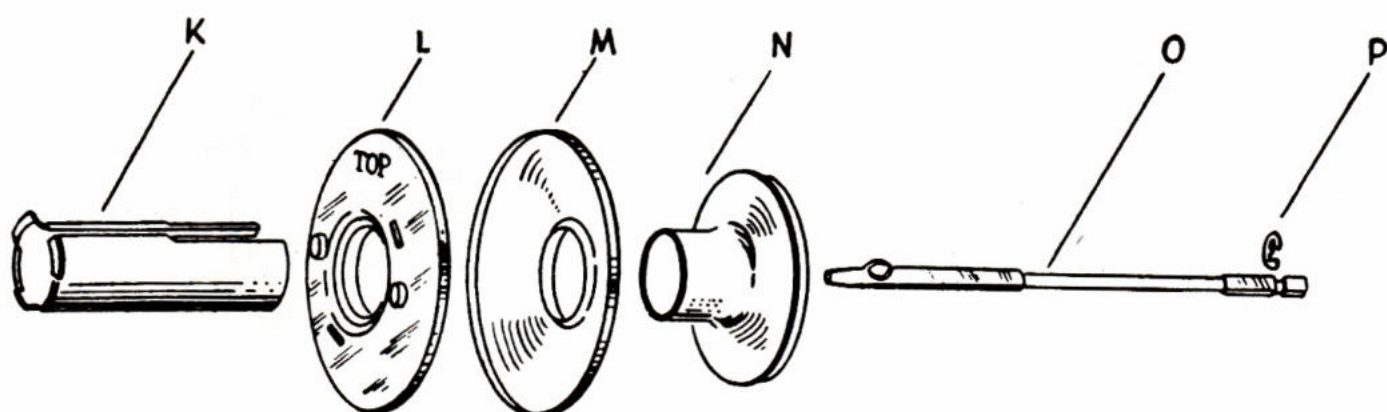
## KEY IN KNOB LOCK

No. 1700

**Manufactured by Skillman Hardware Mfg. Co.**  
Trenton, N. J.

- |                         |                     |
|-------------------------|---------------------|
| A. Inner Knob           | G. Knob Retainer    |
| B. Push Button Assembly | H. Throw Plate      |
| C. Knob Scalp           | I. Latch Assembly   |
| D. Inner Rose           | J. Knob Shank Base  |
| E. Connecting Screws    | K. Outer Knob Shank |
| F. Inner Knob Shank     | L. Rose Plate       |





M. Outer Rose

N. Knob Scalp

O. Release Rod

P. Release Rod Stop Washer

Q. Release Rod Spring Container

R. Spring

S. Shuttle

T. Shuttle Actuator

U. Cam Screw

V. Cam Retainer

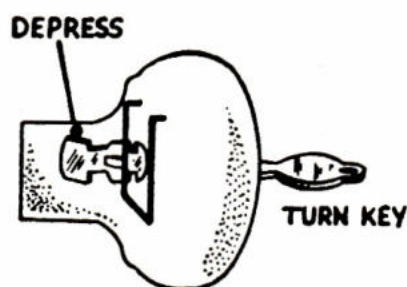
W. Lazy Cam

X. Cylinder

Y. Knob Retainer Spring

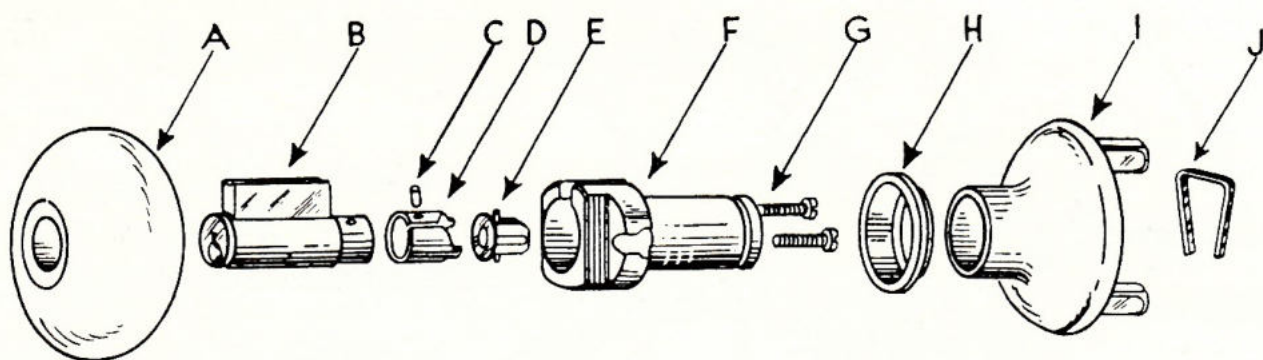
Z. Spring Depressor

AA. Outer Knob



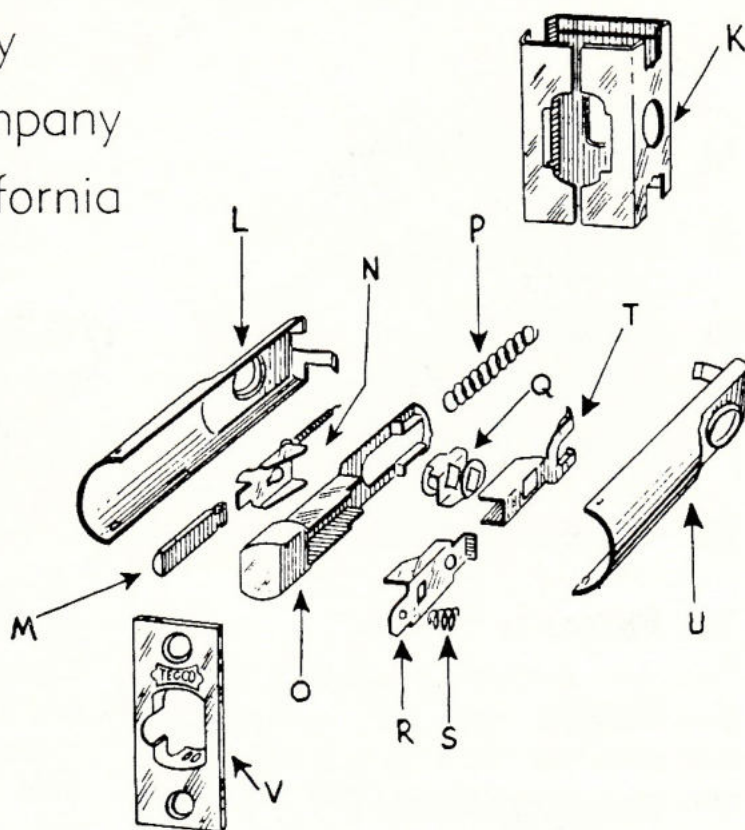
NOTE: To remove outer knob, plug must be turned 270° (or  $\frac{3}{4}$ ) clockwise. When plug is in this position, depress Z through hole in knob scalp N and pull off knob.



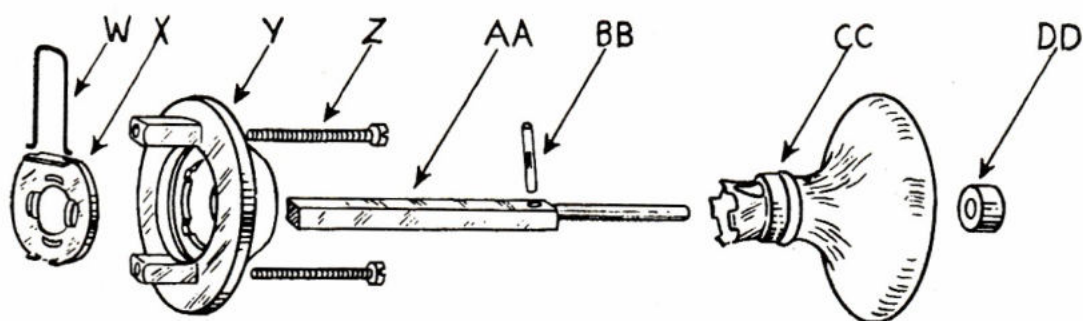


## GLASS KNOB TUBULAR

manufactured by  
Technical Glass Company  
Los Angeles 11, California



- A. Outside Knob
- B. Pin Tumbler Cylinder
- C. Cam Pin
- D. Helical Cam
- E. Spindle Pusher
- F. Knob Shank and Spindle Bearing
- G. Shank Screws
- H. Ferrule
- I. Rose
- J.
- K.
- L.
- M.
- N.
- O.
- P.
- Q.
- R.
- S.
- T.
- U.
- V.



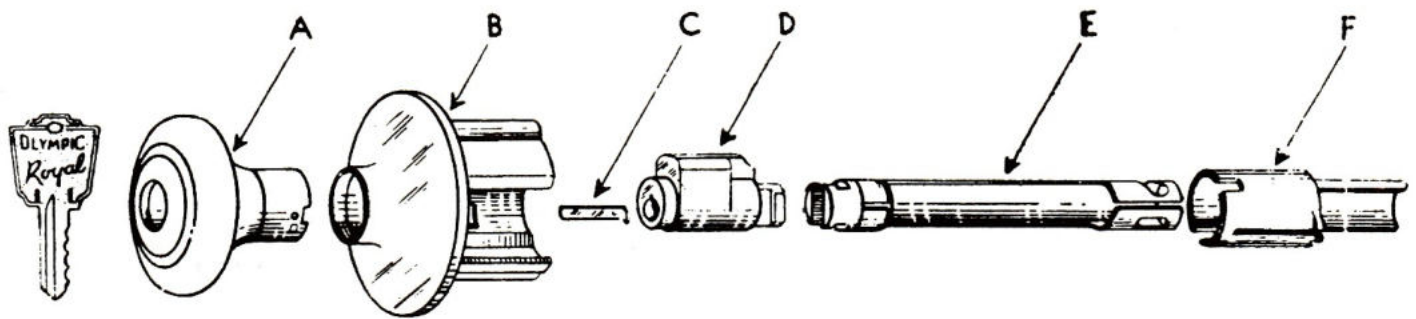
- J. Rose Retainer Spring
- K. Bracket or Bridge (Used in Hollow Metal Door to Hold Tubular Latch Body)
- L. Latch Body Segment
- M. Deadbolt Plunger
- N. Deadbolt Slide
- O. Latchbolt
- P. Latchbolt Spring
- Q. Hub
- R. Deadbolt (Snaps into O when M is depressed)
- S. Pressure Spring
- T. Latchbolt Spring Holder
- U. Latch Body Segment
- V. Front
- W. Spring Stop for Sliding Spindle AA
- X. Spring Holder and Retainer Washer for Glass Knob CC
- Y. Inside Rose
- Z. Rose Screws
- AA. Spindle
- BB. Locking Pin (Locks into notches in rose Y when button DD is pressed)
- CC. Glass Knob
- DD. Push Button



# OLYMPIC "ROYAL"

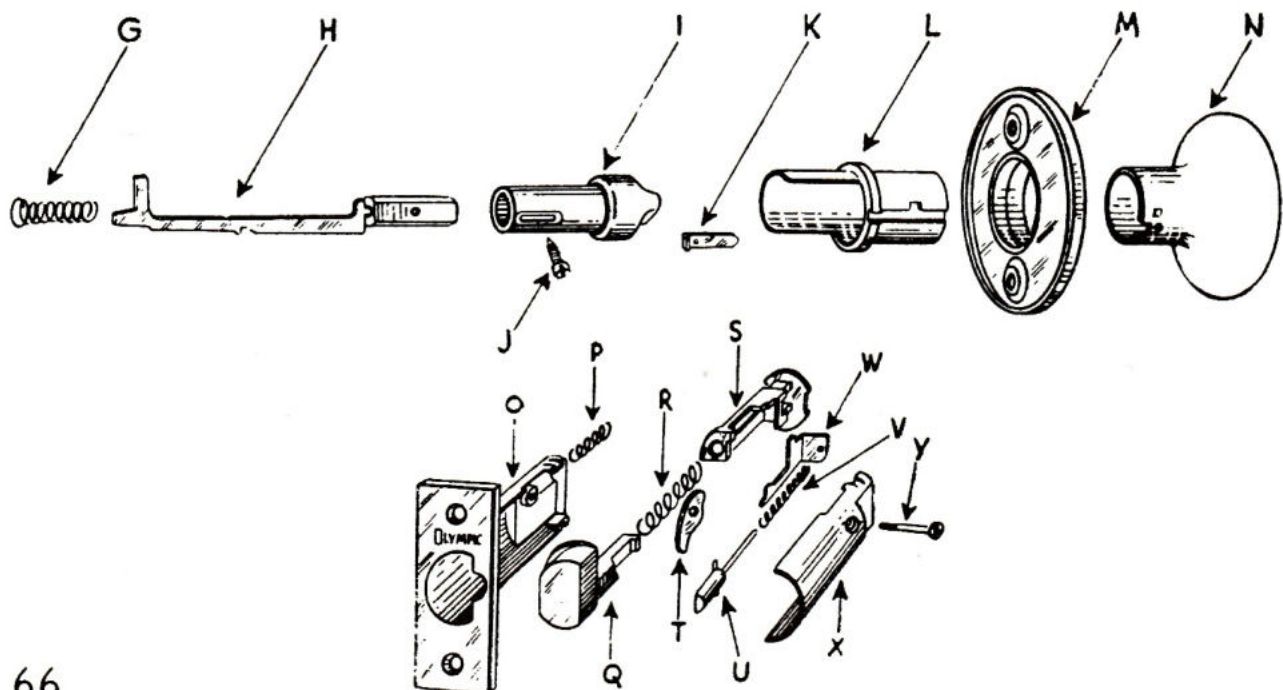
## Cylindrical Lock Set

Vimcar Sales Co., Los Angeles 54, California



- A. Outside Knob
- B. Combination Housing
- C. Knob retainer Spring
- D. Cylinder
- E. Spindle
- F. Latch Retractor
- G. Locking Rod Spring
- H. Locking Rod
- I. Inside Button
- J. Knob Adjusting screw
- K. Knob Retainer Spring
- M. Inside Escutcheon

- N. Inside Knob
- O. Latch Body
- P. Spring
- Q. Latch Bolt
- R. Spring
- S. Latch Bolt Carrier
- T. Bell Crank
- U. Deadlock
- V. Body Screw
- W. Dead Lock Support
- X. Cover



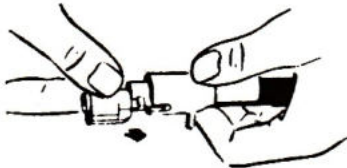
## To Change Hand of Lock



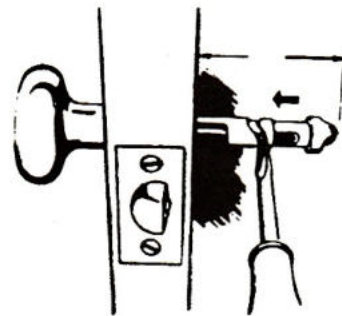
With key removed from cylinder, turn knob until slot in spindle matches slot in escutcheon.



Remove knob spring clip by pushing small nail through hole in escutcheon hub. Place locking button in locked position. Turn knob slightly to left and pull knob from spindle.



Release locking button, lift cylinder tail piece upward and rotate one-half turn to the opposite position. To reassemble, reverse the procedure.

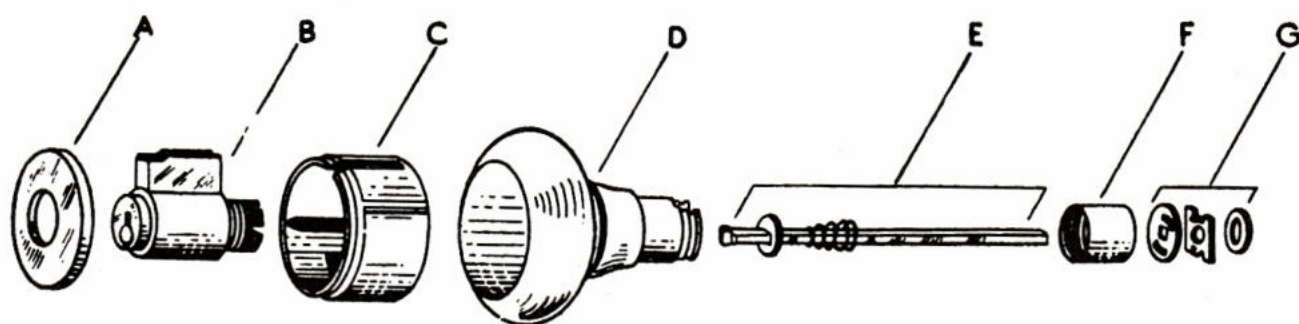


To adjust locking button, loosen screw as illustrated, adjust button according to door thickness, retighten screw (cylinder locks are factory adjusted for 1<sup>3</sup>/<sub>4</sub>" doors).



Method of removing locking rod



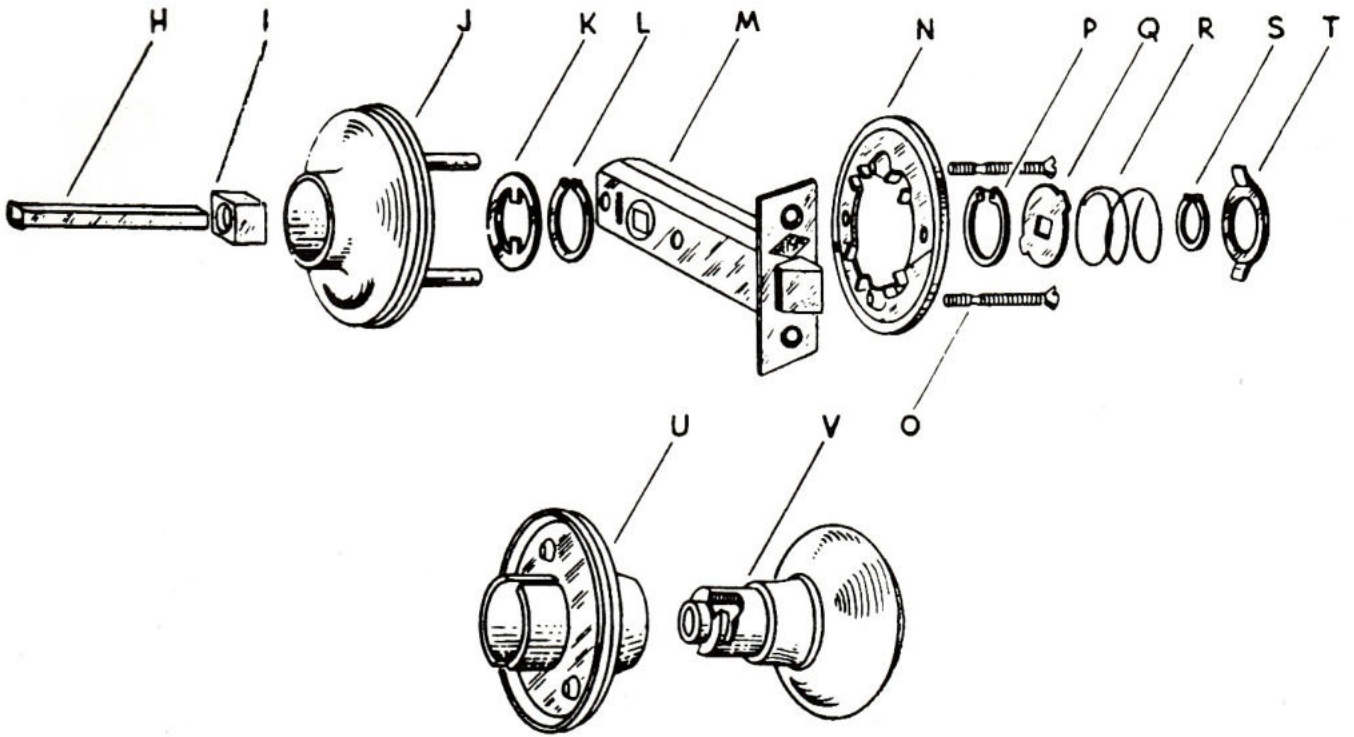


## WEISER KEY-IN-KNOB LOCK SET

No. 500

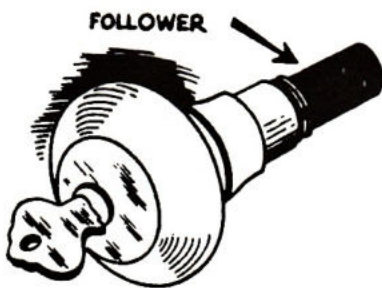
Manufactured by The Weiser Co., Southgate, Calif.

- |  |                         |
|--|-------------------------|
| A. Knob Scalp                              | K. Rose Retainer Washer |
| B. Cylinder                                | L. Tru-arc retainer     |
| C. Cylinder Brace                          | M. Latchbolt assembly   |
| D. Outside Knob                            | N. Locking Plate        |
| E. Cylinder stem                           | O. Fastening Screws     |
| F. Plug retainer                           | P. Tru-arc retainer     |
| G. Cam Assembly (limits travel<br>of plug) | Q. Spindle Bearing      |
| H. Hollow Spindle                          | R. Spring               |
| I. Spindle Adaptor                         | S. Tru-arc retainer     |
| J. Outside Rose                            | T. Winged Washer        |
|  | U. Inside Rose          |
|  | V. Inside Knob          |

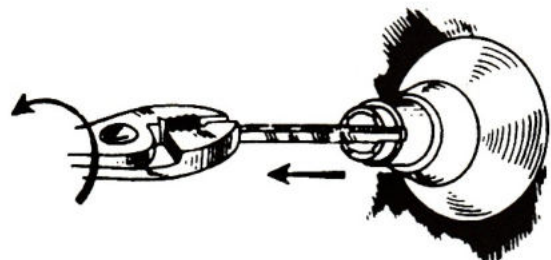


It is not practical to try to remove the cylinder from the outside knob. In order to fit keys, or change the combination, remove the cylinder stem and retainer in the following manner:

1. Shake out cam assembly from knob shank.
2. Pull on stem with pliers and turn counter-clockwise until stem and retainer screw off end of plug, Fig. A.
3. Work with entire knob as though you would work with cylinder alone. Use follower in the regular way. Fig. B



**Fig. B**

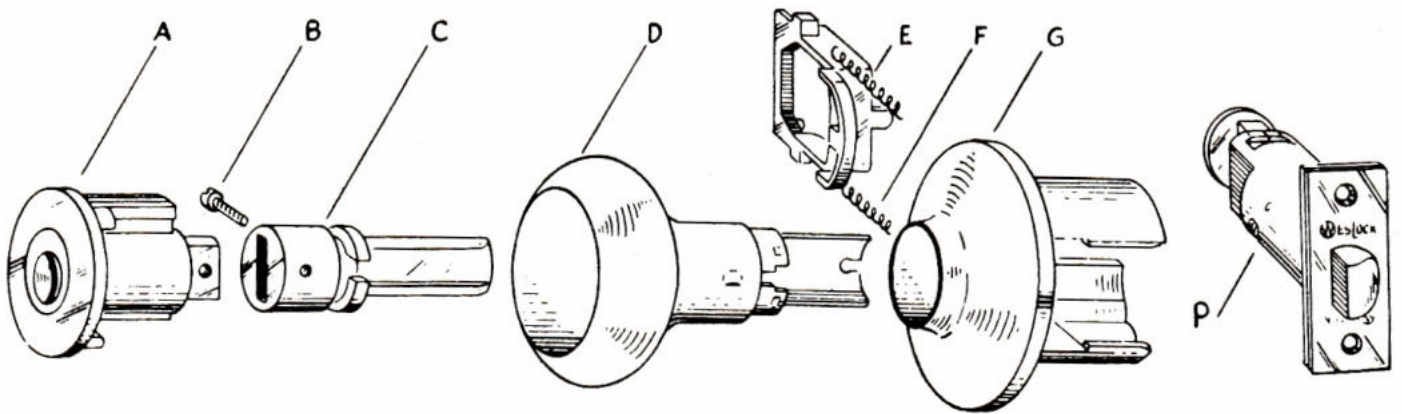


**Fig. A**



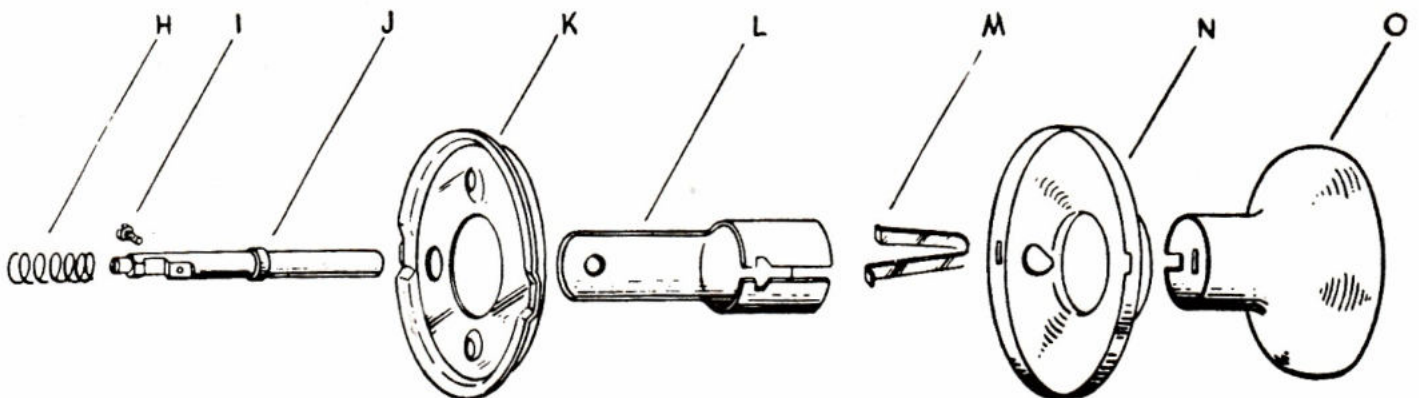
# WESLOCK NO. 500

Manufactured by Western Lock Manufacturing Co

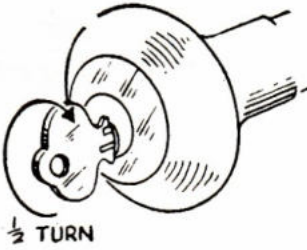


- A. Cylinder
- B. Tailpiece Screw
- C. Tailpiece
- D. Outside Knob and Spindle
- E. Retractor
- F. Retractor Springs
- G. Outside Rose and Retractor Housing

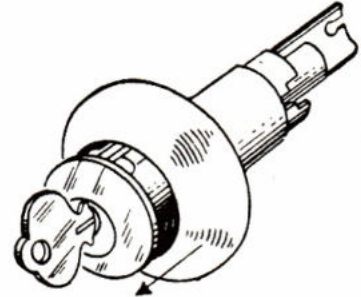
- H. Locking Stem Spring
- I. Locking Stem Screw
- J. Locking Stem
- K. Rose Plate
- L. Spindle
- M. Knob Retainer Spring
- N. Inside Rose
- O. Inside Knob
- P. Latch Assembly



## To Remove Cylinder



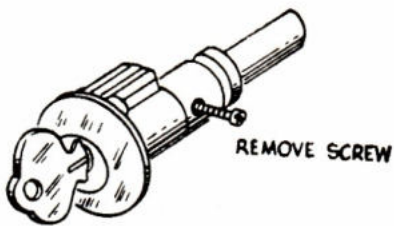
1. Use key, or pick cylinder 1/2 turn.



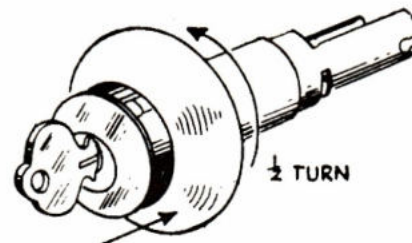
2. Pull out cylinder.

## To Change Hand of Lock

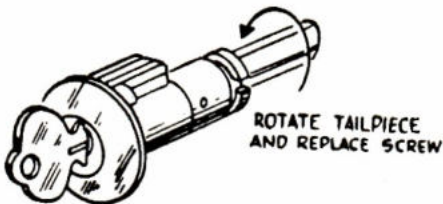
1. Remove cylinder as instructed above.



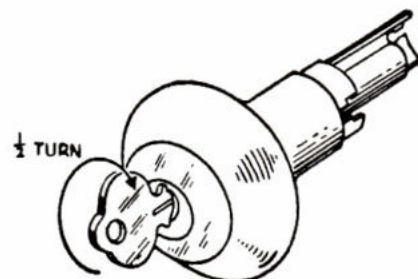
2. Remove tailpiece screw and tailpiece.



4. Turn knob or cylinder 1/2 turn and insert cylinder.

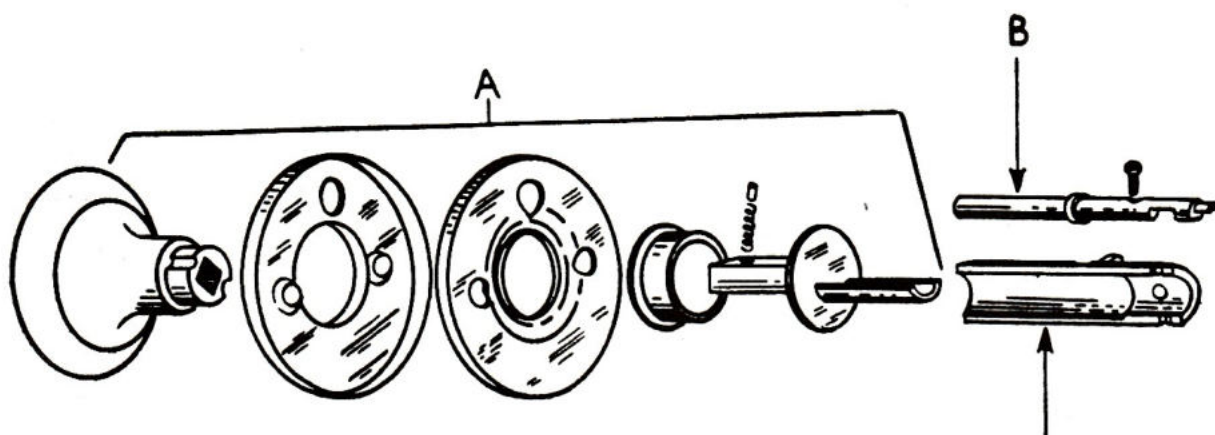


3. Rotate tailpiece 1/2 turn and replace on cylinder



5. Turn key 1/2 turn to required position.



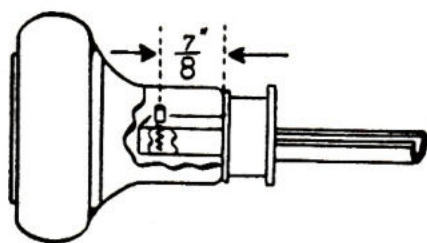


# WESLOCK

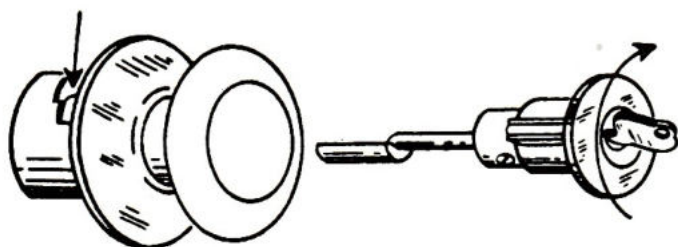
## Service Instructions

Manufactured by the Westwood Manufacturing Company

- A. Inside Knob Assembly
- B. Push button rod for locking outside knob
- C. Spindle
- D. Latchbolt actuator (slide)
- E. Housing
- F. Outside knob shell
- G. Cylinder connecting bar
- H. Pin tumbler cylinder
- J. Latchbolt assembly

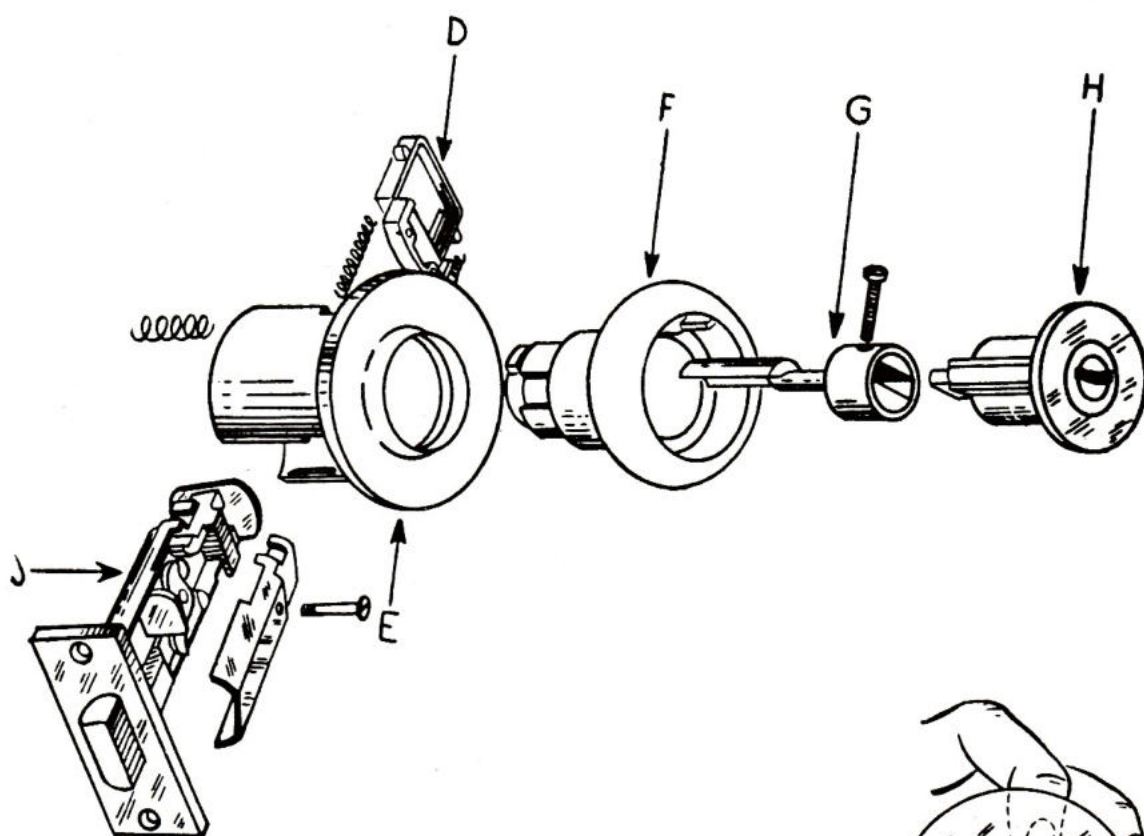


In servicing the Weslock, it should be remembered that the inside knob is a sealed assembly. However, if it is necessary to remove the spindle for replacement, it will be found that this can be accomplished by drilling a small hole  $\frac{7}{8}$ " from the ferrule on the same side where the groove of the spindle is located and depressing the retaining pin.

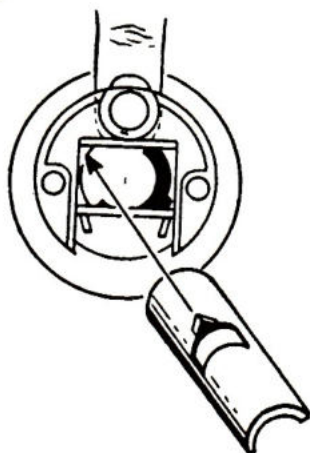
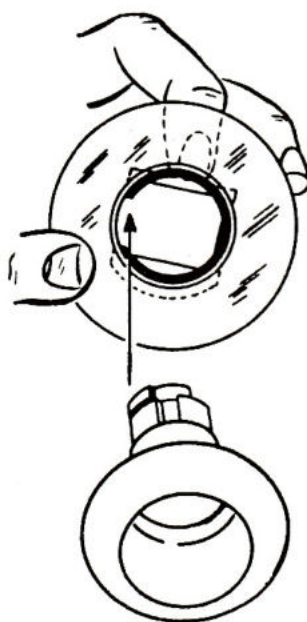


the cylinder. (Please note that this will require picking if there is no key available.)

The cylinder itself may be removed only when the latch bolt assembly is disconnected from the rest of the lock. In this position, all you have to do is turn the plug 180 degrees ( $\frac{1}{2}$  turn) and pull out



To disassemble the unit, first remove the cylinder as explained above. Then turn the assembly so that the back faces you. Depress the slide with your finger, and move spindle (C in the exploded view) to the position shown in the following illustration below. Now pull out the spindle from the housing.

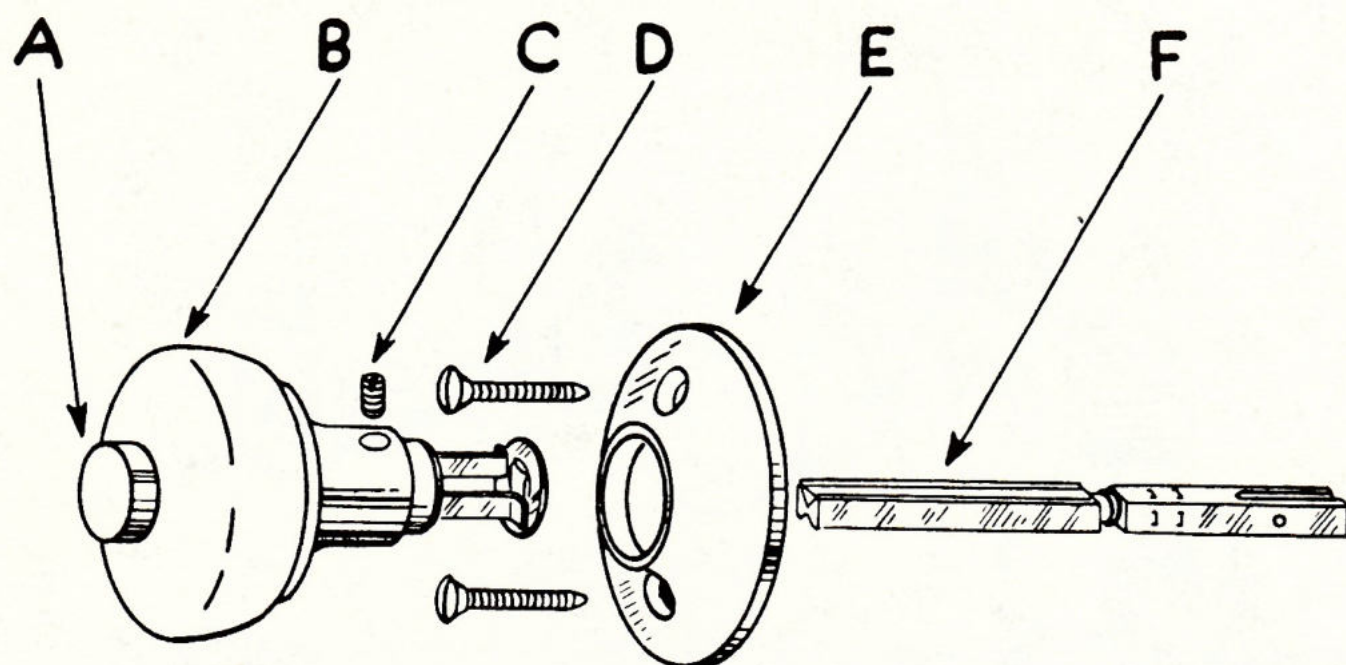


The knob may be removed if necessary merely by turning it until the lug on the shank meets a small notch in the housing. Then you can just slip it out.

To reassemble, replace the knob. Then replace the spindle. (Remember to hold down the slide)

Be sure that the spindle fits all the way into the shank of the knob. With both the knob and the spindle in place, turn the plug one half turn and insert the cylinder through the knob. Then complete the turn with the key, and the cylinder will stay in place. It will not come out when installed in the door because the latchbolt assembly will not permit the key to make a complete half turn.



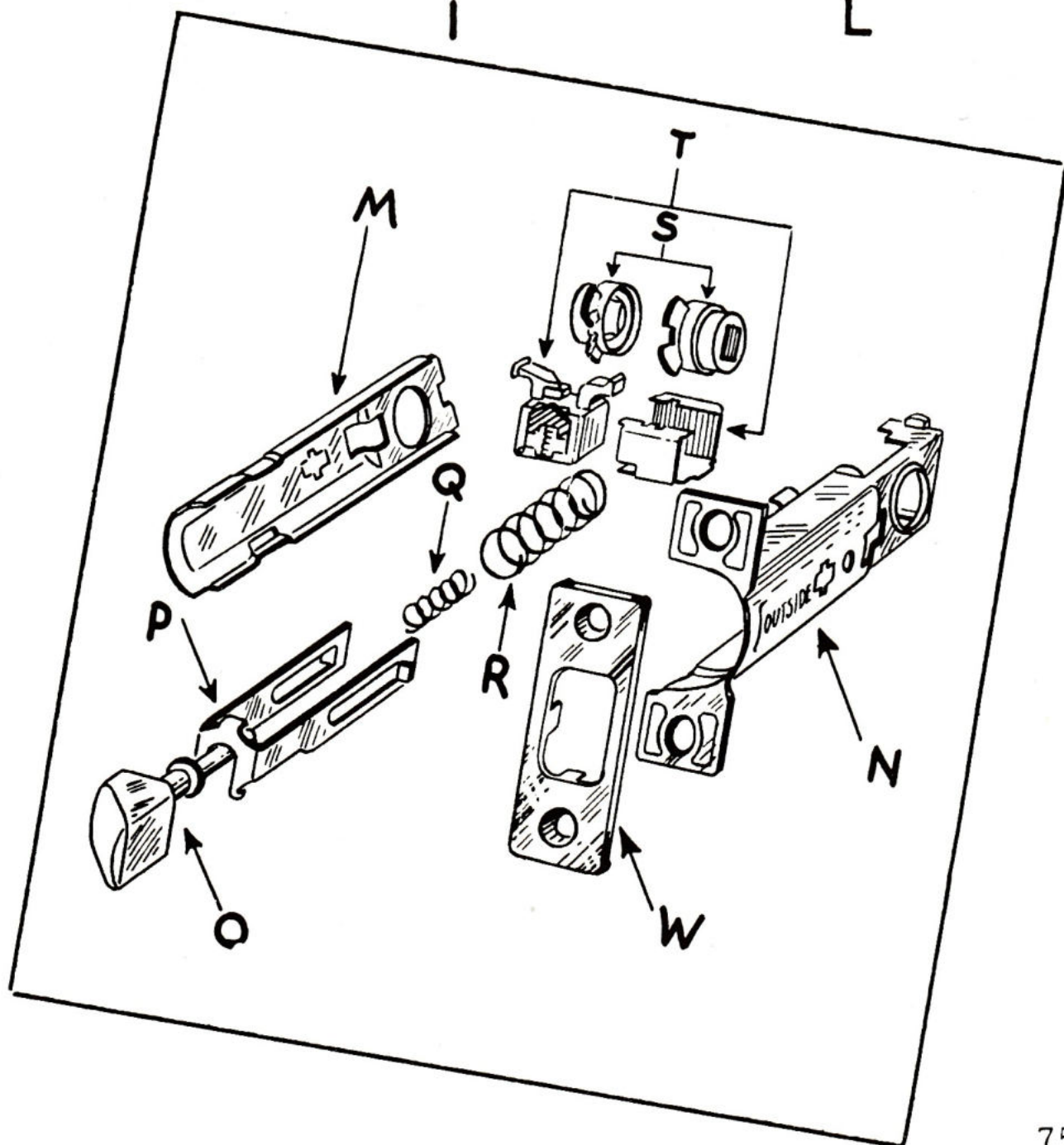
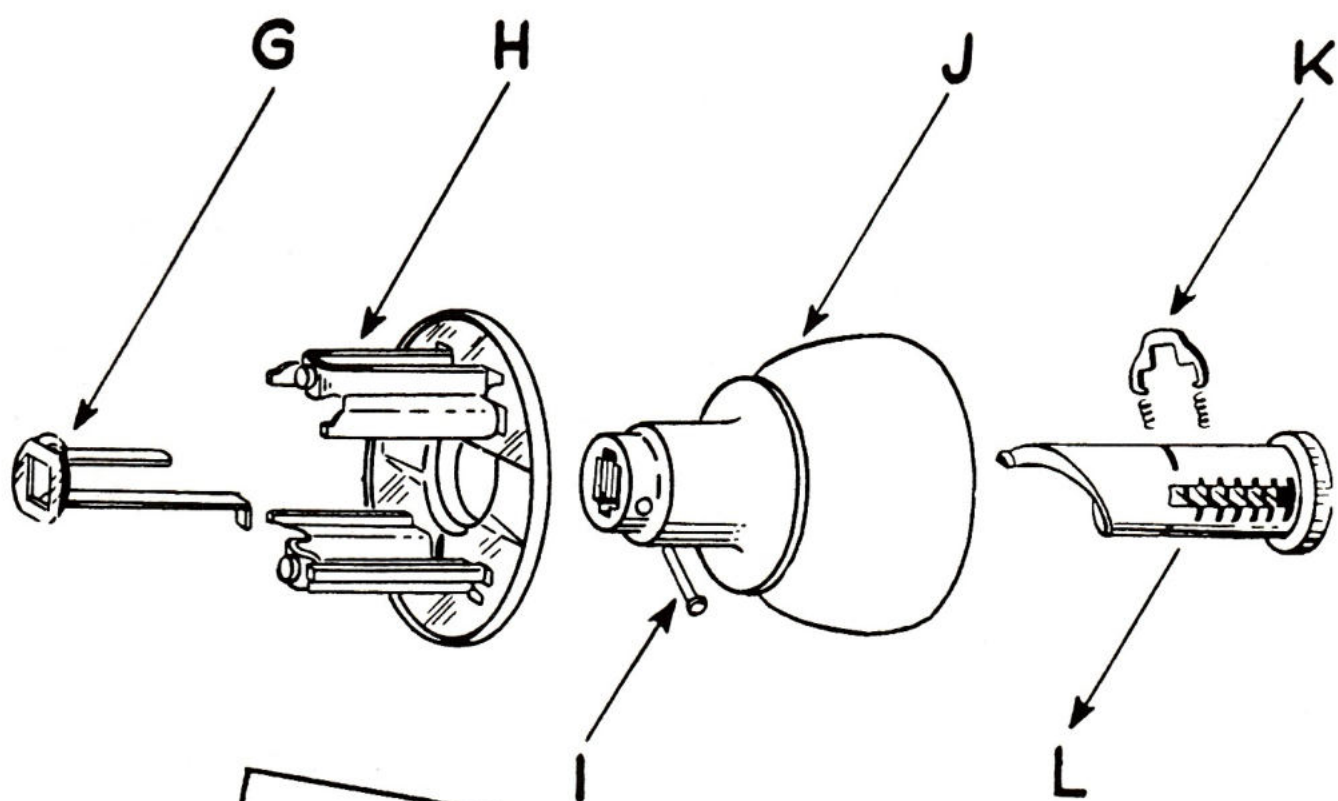


# New Yale "Home Duty"

## Model H-11

Manufactured by  
The Yale & Towne Mfg. Co.,

- |  |                              |
|--|------------------------------|
| A. Push Button   | I. Knob pin                  |
| B. Inside Knob   | J. Outside Knob              |
| C. Knob Screw  | K. Plug Retainer             |
| D. Rose Screws (these connect to outside rose H)   | L. New Type "twin bar" plug. |
| E. Inside Rose   | M. Inside case               |
| F. Swivel Triplex Spindle  | N. Outside case              |
| G. Push button stem (This part is actuated by button A and controls the hub locking slide T) | O. Latch bolt                |
| H. Outside Rose (called "Bridge Girder" construction by company)                             | P. Tail piece                |
|  | Q. Latch bolt spring         |
|  | R. Tail piece spring         |
|  | S. Hubs                      |
|  | T. Locking Slide             |





## SERVICE INSTRUCTIONS FOR YALE-H11

Figure 1 shows the position of the disc tumbler in the locked position. Note the two round sidebars. The heavy black line represents a spring coil that always exerts pressure against the outer sidebar.



Figure 1

Figure 2 shows what happens when an attempt is made to pick the lock. The plug merely turns a little while the outer sidebar wedges between the plug and the shell. This action neutralizes the effect of an ordinary pick and turning wrench. It should be noted that there is no pressure against the tumblers at this time.



Figure 2

Figure 3 shows the disc tumbler in correct alignment with the twin sidebars. The coil spring gathers the twin sidebars into the plug thus freeing the plug for rotation.

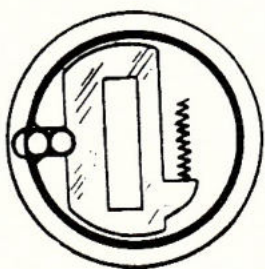


Figure 3

Figure 4 shows a schematic view of the plug with the correct key inserted. Note that there are six disc tumblers. The coil spring and twin sidebars are indicated in an "exploded view."

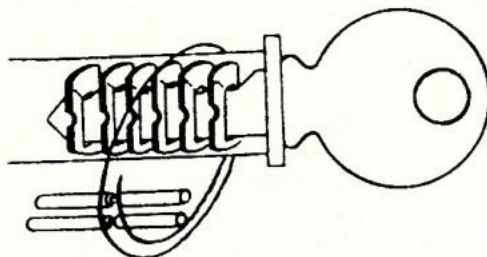


Figure 4

For the first time also, Yale has incorporated a "triplex spindle" in a tubular lock of this type. This permits attachment of the knob at any point, minimizes the possibility of loose fitting knobs, and so attaches the knob, that when once set, it will not pull out.

Another unusual feature in the new Yale Home Duty tubulars is a "bridge girder" assembly. By means of this assembly, the outside rose attaches to the inside rose by machine screws, the knob assembly mates with the latch assembly, and the girders, which are part of the outside rose assembly, make a self-aligning unit. No wood screws are needed to hold the lock on the door. (See H in exploded view on pages four & five.)

With the realization that locksmiths may soon be confronted with service requests on this new lock, Yale & Towne has made available the following information:

### Removing the Plug

To change the combination, or to replace the plug, insert the key and turn until the **BOTTOM** of the



keyway is in line with the small hole in the lower rim of the knob. (See Figure 5) Take a stiff piece of wire and make a  $\frac{1}{4}$ " bend on one end to a 45 degree angle. Insert the wire into the hole and feel for the small hole in the solid shell within the knob. You will reach the top of the retainer through this hole. PUSH HARD to depress the retainer. Maintain the pushing pressure on the retainer while pulling the plug out of the knob with the key.

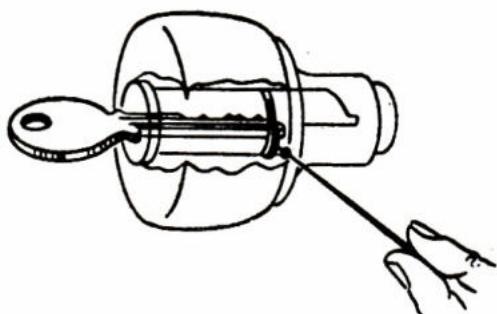


Figure 5

**CAUTION: DO NOT TURN THE PLUG OR KEY WHILE REMOVING FROM KNOB.** Turning may cause the retainer to drop into the tumbler slots of the shell! (If this should occur, the plug can be released in the following manner: Grasp the shoulder of the plug with a pair of adjustable pliers. Twist and turn the plug vigorously. This action will unseat the retainer and cause it to fall out of the shell. Of course, a new retainer will have to be inserted before the plug is replaced into the knob.)

It is wise to remember that the discs are not staked in the plug. Therefore, always keep the key in the plug while removing it from the knob. This will prevent loss or accidental locking in the shell slots.

### Fitting the Key

With the plug out of the knob, the usual method of fitting keys may be employed. Simply remove the coil spring and twin bars so that you can see the notches in the discs within the plug. File each cut in your key (blank No. TB12) until the notch in the corresponding disc lines up with the sidebar slot in the plug. When all six notches are in correct alignment, your key will fit the plug.

If you prefer to cut your keys on a code machine or by micrometer, use the following depths. Measurements given are taken from the root of the cut to the bottom of the key:

○ (Full Width)	-----	.308
1	-----	.283
2	-----	.258
3	-----	.233
4	-----	.208

The first tumbler space is .135" from the shoulder. The others are .120" apart. (Spaces are measured from centers of cuts.)

### Changing Combinations

The combination on a single Yale Home Duty Lock may be changed simply by switching



discs around and cutting new keys.

**WARNING: DO NOT ATTEMPT TO USE AN OLD KEY AND FILE A SECOND SERIES OF NOTCHES ON THE DISCS.** Such practice will destroy the security of the lock and permit interchanges. If you are required to change the combination to a given key, **USE NEW DISCS.**

### Keying Alike

If you are required to set up a number of Home Duty locks to the same key merely prepare sets of discs with the same combination and install them in the plugs. When keying alike, be sure to select a sturdy key. If possible, use a key where the high cuts are nearest the shoulder. Since one key must open many locks, it is always better to choose the strongest combination arrangement for the best service and preservation of the key.

### Fitting Keys Without Removing the Plug

Removing the plug from a Home Duty Lock when the key is lost is a difficult job. The pick-resistant features of the twin sidebars discourage attempts to turn the plug without a key. Therefore, locksmiths will find the fitting of the key by the reading method more practical.

By peering into the keyway with the aid of strong light, you will be able to see the depths of the various discs. Figure 6 shows the relative appearance of the various depths. Note that the lowest depth has the widest upper

section as compared with the highest depth which has the narrowest upper section.

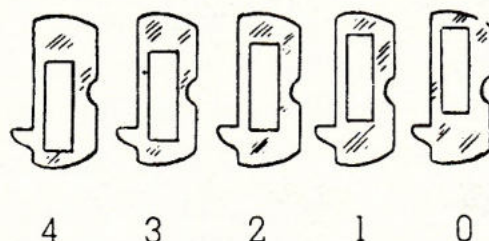


Figure 6

Reading the depths of the discs can be accomplished rather easily with the aid of a thin straight pick that will enable you to raise each tumbler out of the way so that you can clearly see the one directly behind. In Figure 7 the method for doing this is illustrated. Notice how the fourth tumbler is being sighted. The locksmith can tell by comparison with the other tumblers that he has read just what depth this fourth tumbler represents.

In making this key, use the key blank and depths listed on page six.

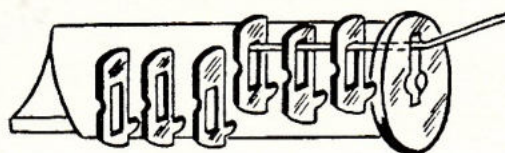


Figure 7

Generally speaking, depths will be at least two steps apart. This fact will make reading much simpler. For instance, it will be easy to distinguish between a number 4 cut and a number 2 cut because there will be at least 50 thousandths difference between them. This fact will hold true except where you find large quantities of locks being used on any



one building or groups of buildings. In such cases the steps will be one only depth or .025" apart.

### Master Keying

Master keying is accomplished by the use of "stepped" tumblers. Figure 8 shows a stepped tumbler. The change key contacts the disc at the lefthand step, while the master key contacts the tumbler at the right hand step. In a master keyed set-up, the combination of the right hand steps are alike for every lock in the series while the left hand steps vary from lock to lock. The Master key blank stock number is TB11.

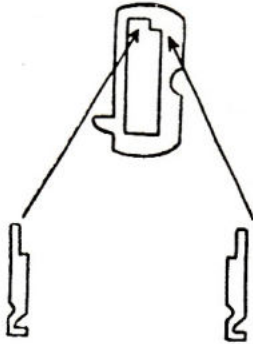


Figure 8

To assist locksmiths in setting up their own master key system, Yale & Towne will supply packages of stepped tumblers. With these packages a locksmith cannot only compose his own master system, but he can also service any group of mastered locks that he meets in the field. For instance, if he needs a disc where the change key depth must be a Number 0 and the master key depth must be a Number 4, he merely selects an "0-4" stepped tumbler. The left digit "0" refers to the change key depth, while the right digit "4" refers to the master key depth. There are 17 different com-

binations of stepped tumblers.

Up to 500 Home Duty locks may be mastered without interchanging or duplicating combinations.

### Service Work

You may be called upon to reverse the hand of a home duty lock. This is a simple adjustment. Merely remove the face plate from the front of the lock, and turn the latchbolt to the desired direction.



Figure 9

In the event of a lockout when an emergency entry is required, you will find the following method practical: Drill a small hole in the outer rose on a line with the shank of the knob as shown in Figure 10. Insert a thin sharp instrument like an ice pick through the hole until you make contact with the locking slide. Push hard until you move the slide back into the body of the lock. This action will unlock it.

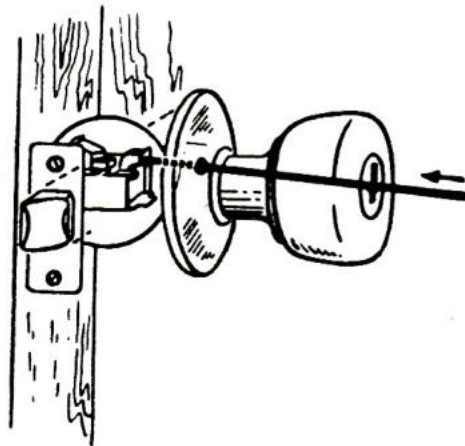


Figure 10



# Yale D-1 Tubular

Service problems on the Yale Tubular line are simply solved when a study is made of the construction and a little information about the disassembly are remembered by the locksmith. In these few pages, you will see the whole story illustrated and described in detail, with an exploded lock view and supplementary illustrations.

This article deals primarily with the D-1 or pin tumbler tubular. The D-2, or disc tumbler model is serviced almost identically (with the exception of the plug.)

First, let us assume that you are called to the job, where the lock is already installed in the door. You have been requested to change the combination. The first thing you do is to remove the lock. Start by removing the inside knob where the push button is located. This may be done very easily by inserting a straight pin or wire in the hole provided for it in the shank of the knob as shown in

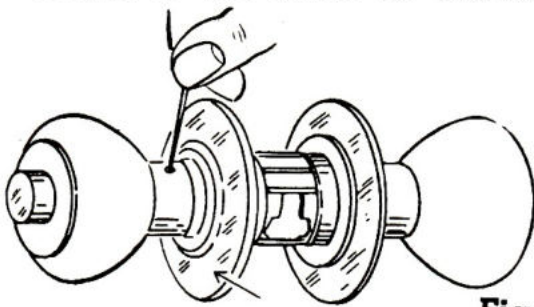


Fig. 1

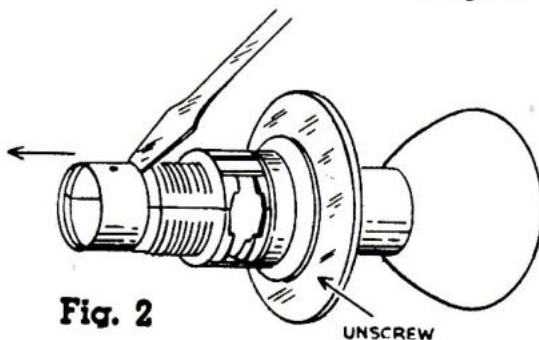


Fig. 2

UNSCREW

Figure 1. Depress the catch and pull off the knob.

Now, remove the rose by twisting it until it comes loose from the ribbed nut concealed underneath. Take off the ribbed nut by striking it with a hammer and screwdriver (or use the wrench that is now furnished with every new lock).

With the nut off, you will be able to discover the place where the latch bolt assembly is attached to the tubular housing. Remove the face plate screws and then along the side of the housing, with an ice pick or other sharp instrument, unhook the two springs and pull out the latch assembly. This will also free the tubular housing.

To disassemble the housing, pry off the end ferrule carefully as shown in Figure 2. Back off, or "unscrew" the remaining rose so that it no longer rests on the tubular housing.

Turn the housing until the tubular section marked "T" is on top. Slide this section out slightly and lift up, thus removing it as in



Figure 3. (CAUTION: Hold the flat spindle firmly in the other section while removing the top half.)

Now give the knob a 90 degree twist either left or right. Steady the top of the spindle with your finger, lift the section slightly upward and out. Also remove the spindle assembly from the knob.

Inside the knob shank you will find a tube-shaped device called a "roll back". Remove this also, together with the remaining ferrule and rose.

The spindle assembly has a spring cup which consists of two die cast cups with a torque spring between them. If this group becomes disengaged, just lock the cups together again by twisting the cups in opposite directions until you "catch" the correct position under spring pressure -- (just as you would do on a 1935 General Motors door handle).

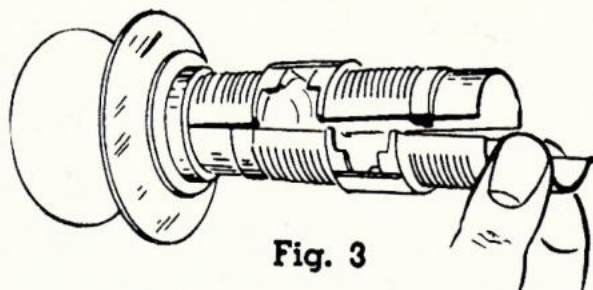


Fig. 3

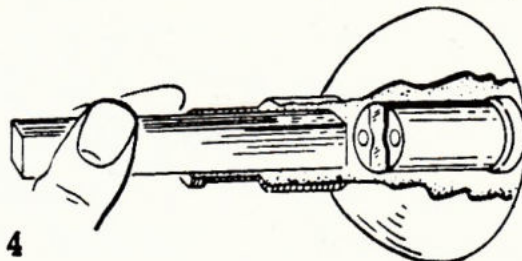


Fig. 4

THE CAM OR PLUG RETAINING PLATE CANNOT BE REMOVED FROM THE KNOB! To remove the plug, unscrew the cam screws, and use a FLAT follower. (See Figure 4.)

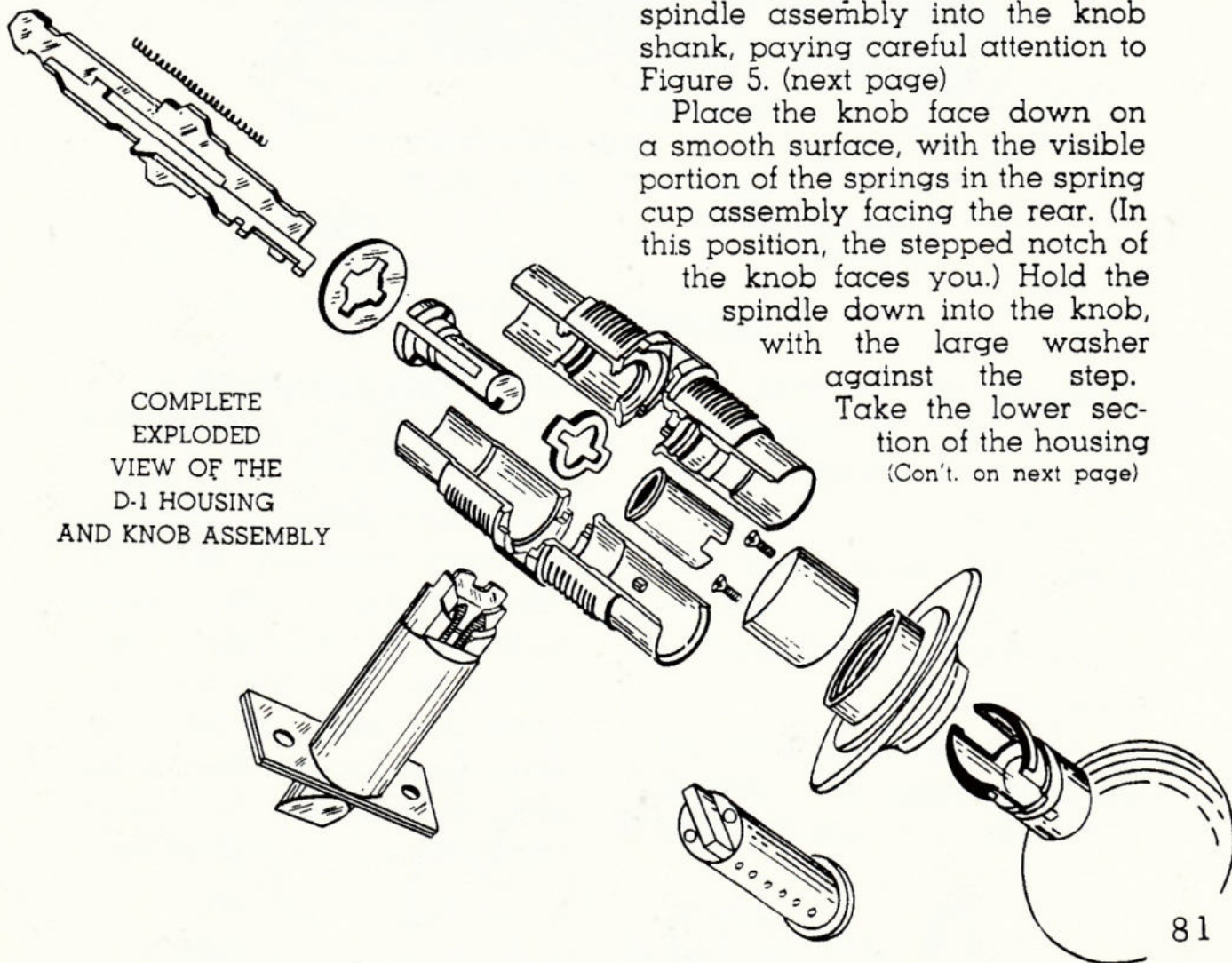
If your job requires the fitting of an original key, you will have to pick open the plug. It cannot be shimmed, and rapping may damage the knob.

After fitting the key, reassemble the lock in the following manner:

Replace the roll back. Add the ferrule and rose. Insert the entire spindle assembly into the knob shank, paying careful attention to Figure 5. (next page)

Place the knob face down on a smooth surface, with the visible portion of the springs in the spring cup assembly facing the rear. (In this position, the stepped notch of the knob faces you.) Hold the spindle down into the knob, with the large washer against the step.

Take the lower section of the housing  
(Con't. on next page)



COMPLETE  
EXPLODED  
VIEW OF THE  
D-1 HOUSING  
AND KNOB ASSEMBLY

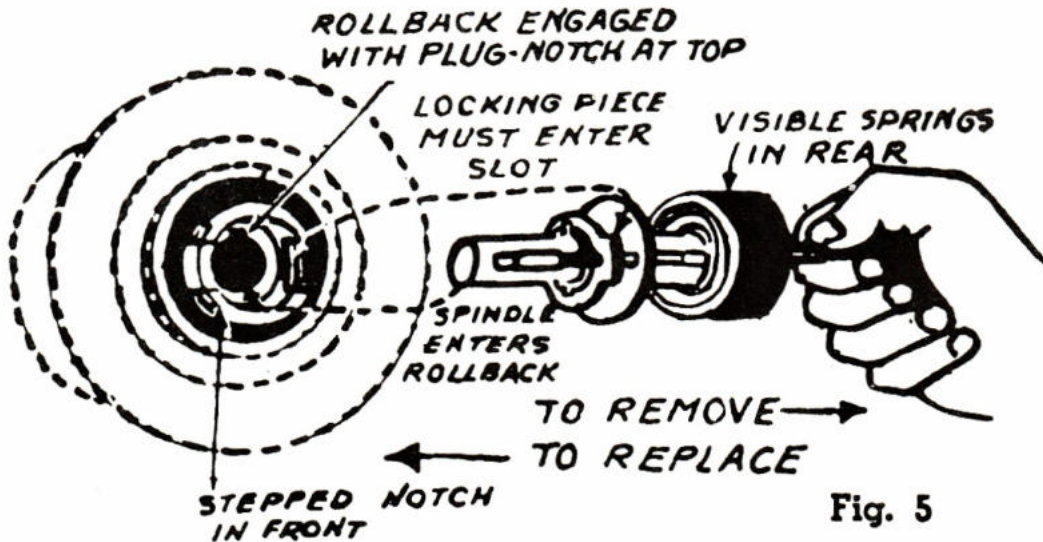


(the one with all the grooves in it) and insert it into the ferrule. Make sure that the spindle washer fits into the proper groove provided for it in this section.

Gently press the spring cups into their correct groove in the section while turning the knob **CLOCKWISE** a quarter turn. This action will engage the cups with a rib. Turn the knob both ways to see if it has "return" power. This will show whether or not the cups

are correctly engaged. If all is well, hold the spindle and section together and slide the other section of the housing into the ferrule. When finished, both sections must be flush with each other.

Replace the other inside ferrule, making sure that the holes line up with the corresponding holes in the sections. Now, reinstall the lock in the door and replace the rose assembly and knob.

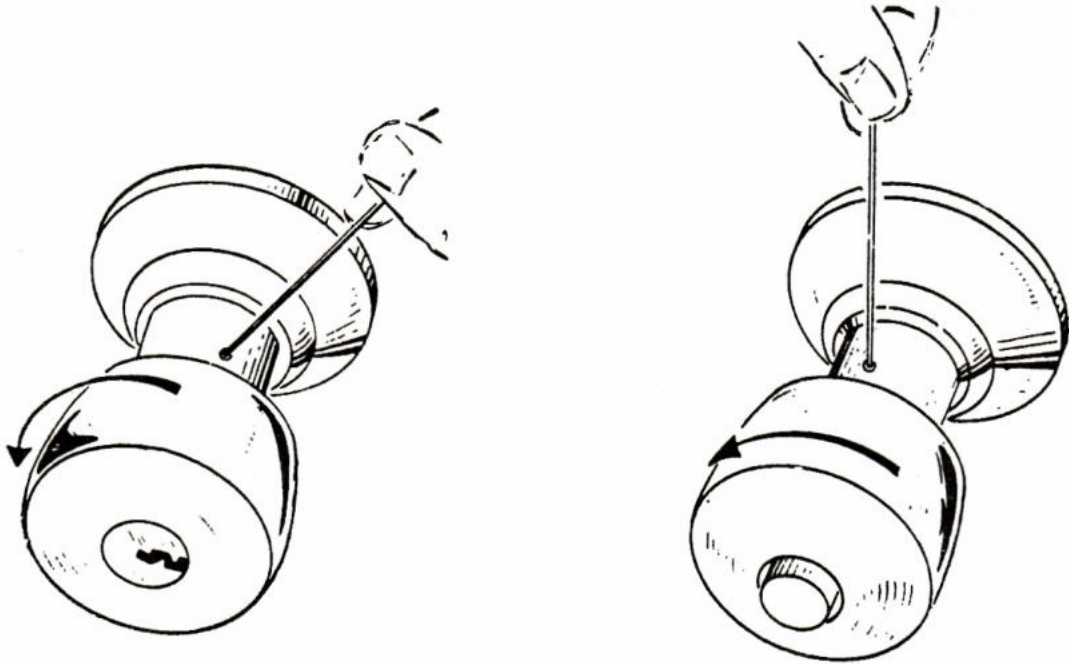


### SERVICE HINTS

1. Lubricate the D-1 lock with vaseline or its equivalent. (Only the mechanism ---- not the cylinder!)
2. If the inside knob button falls out during the time you are servicing the lock, just push it back again.
3. If your customer complains that the inside button won't stay in and keep the outside knob locked, nine chances out of ten the latch is not entering the strike all the way.
4. If you have difficulty removing the latch assembly from the door, grind a "V" into a piece of thin steel and slide it over the hooks. You can then depress both hooks at the same time. Also, turn the knob a bit and the latch will pull away from the tubular housing.

## HOW TO SERVICE THE NEW YALE 5300 SERIES

One of the features of the Yale 5300 line is the ease with which the knobs can be removed or replaced. A slight turn of either knob in a counter-clockwise direction lines up the retainer with the hole in the knob bearing. When the retainer is depressed with a paper clip or other pointed instrument, the knob can be pulled off.



Another feature of this lockset is that it can be fitted with keys, keyed alike, master keyed, or changed to a different combination without having to remove the whole lock assembly from the door. This is true because the entire cylinder is enclosed in the outside knob and when the outside knob is removed, the cylinder comes right off with it.

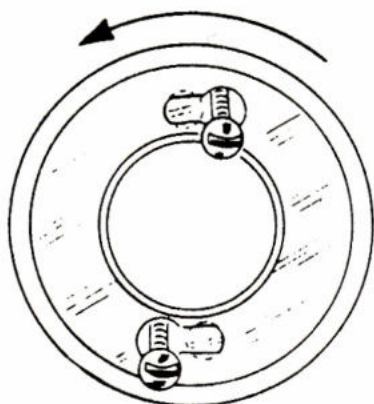
There's another advantage to this arrangement. In the event that the keys become lost, it is possible to gain access to the inside of the house through other means and then unlock the door by merely turning the inside knob. This action frees the knob, permitting it to turn so that the knob and cylinder may be removed. The customer can then bring the assembly to a local locksmith for refitting.

On pages 20 and 21, you will see an exploded view of the 5300 lockset. If for any reason it should become necessary to disassemble the entire unit, or to reassemble it in the event that someone has taken it apart either through curiosity or mischievousness, the exploded view will serve as a guide. If any of the parts are further dissected than as shown in the view, it is advisable to replace the dissected unit with a new, intact one. The only exception to this suggestion is the cylinder which may be reassembled in the manner explained later.



# HOW TO SERVICE THE NEW YALE 5300 SERIES

If it should become necessary for any reason to remove the lockset from the door, just remove the inside knob and pry off the rose. This will reveal the fastening plate. Loosen the two fastening screws. (It is not necessary to remove them.) When the screws are loose, just twist the plate until the large holes meet the heads of the screws and pull off the plate.

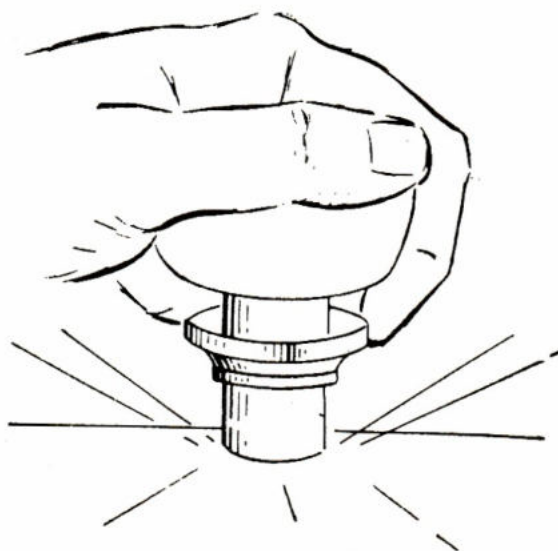


The pin tumbler cylinder which is enclosed in the knob, is a standard SIX pin cylinder using the regular No. 8 keyway. For general use, only five pins are used. For master keyed set-ups requiring complex systems, six pins are used in conjunction with special series keyways.

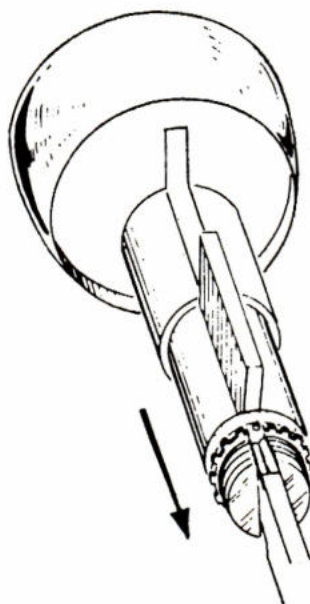
## REMOVING THE CYLINDER FROM THE KNOB

Before it is possible to fit a key, change the combination, master key, or key alike the 5300 lock, the cylinder must be removed from the knob. The first step, therefore, is to remove the knob cap. This is done by tapping the

knob smartly on the work bench or a block of wood. CAUTION: Tap squarely to avoid bending or distorting the knob shank!



Occasionally, the protective coating on the knob may act as a seal and prevent the knob cap from dislodging. Use a sharp instrument to scribe along the parting line where the cap meets the knob. This will usually free the

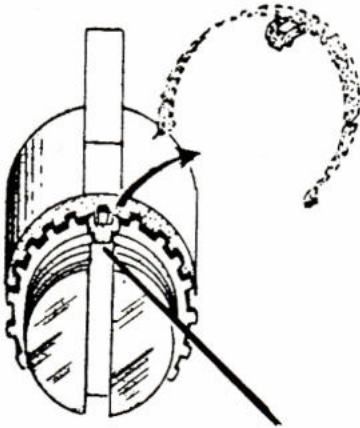


cap sufficiently so that it will drop when tapped.

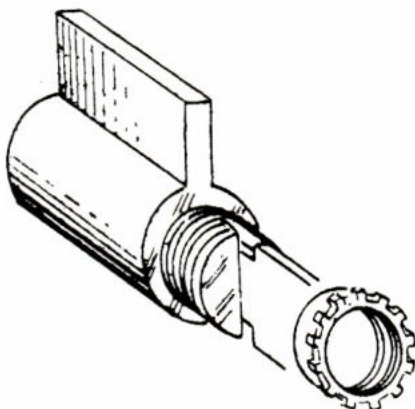
When the knob cap is removed, the cylinder can be removed from the knob by pushing it out from the front.

### FITTING THE KEY

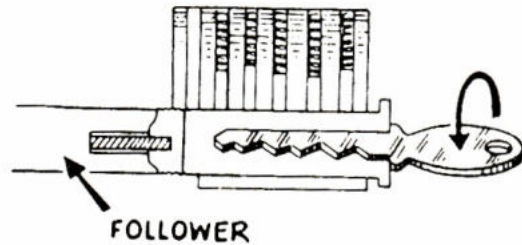
Fitting a key to the cylinder requires that the cylinder be partially disassembled. Therefore, the first step is to remove the spring clip that holds the plug nut retainer. This is done by hooking the overhanging lip of the clip with a sharp instrument and pulling it out.



The next step is to back off the castellated nut from the plug.



Then shim, rap, or pick the plug 90°. In cases where only a change of combination is required, use the key to turn the plug.

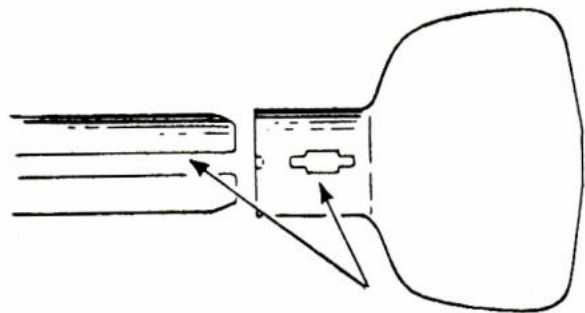


Use a follower with a long slot at the end to accommodate the tail piece. (The tail piece is not removable from the plug.)

Perform the work on the cylinder, then reassemble and replace in the knob.

### REPLACING THE KNOB

The ease of knob replacement is another outstanding feature of this lock. It is possible because the retainer that holds the knob in place is beveled. Just push the knob along the spindle. The retainer will depress like a latch bolt. It jumps up again when the slot in the knob is directly above it.



Be sure, when replacing the knob, to line up the cross-shaped detents on the knob shank with the **narrow** slot in the spindle.

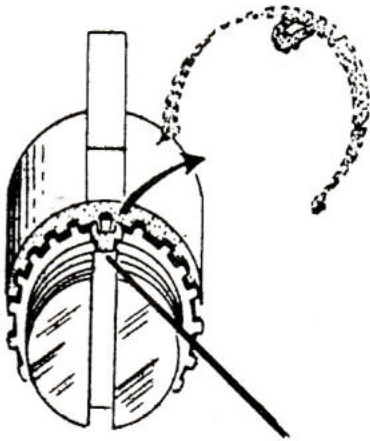


cap sufficiently so that it will drop when tapped.

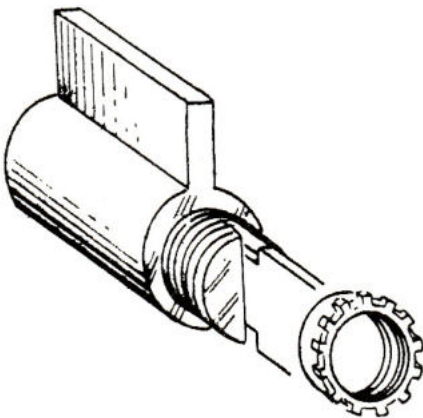
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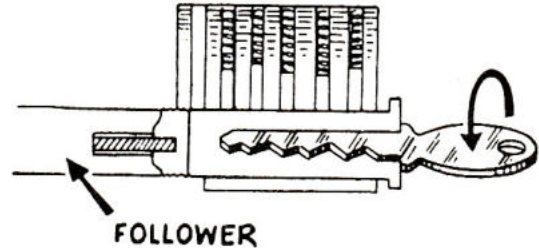
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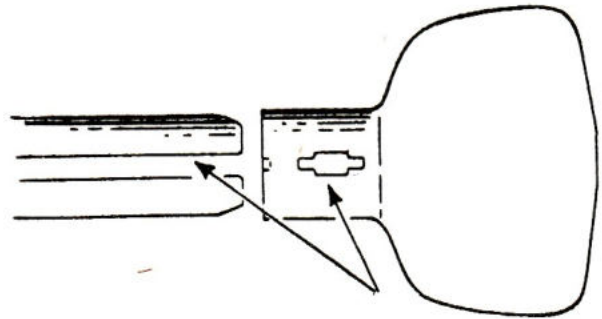


Use a follower with a long slot at the end to accommodate the tail piece. (The tail piece is not removable from the plug.)

Perform the work on the cylinder, then reassemble and replace in the knob.

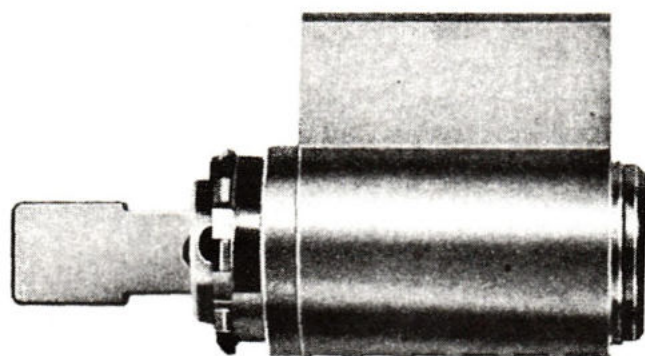
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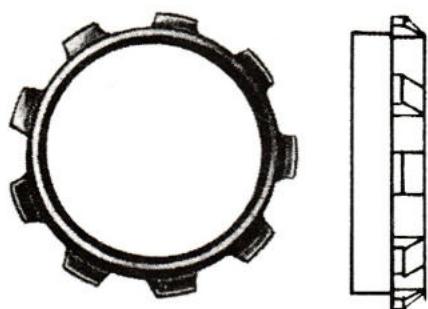


Be sure, when replacing the knob, to line up the cross-shaped detents on the knob shank with the **narrow** slot in the spindle.

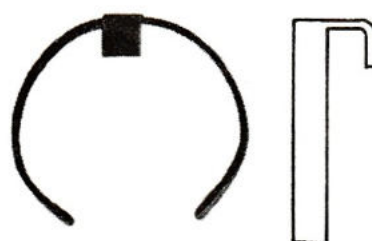
# REPAIR PARTS FOR YALE 5300



**No. 1800 CYLINDER**



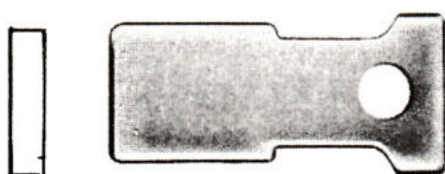
**No. 013**  
Plug nut



**No. 014**  
Plug nut retainer



**No. 017**  
Knob retainer clips

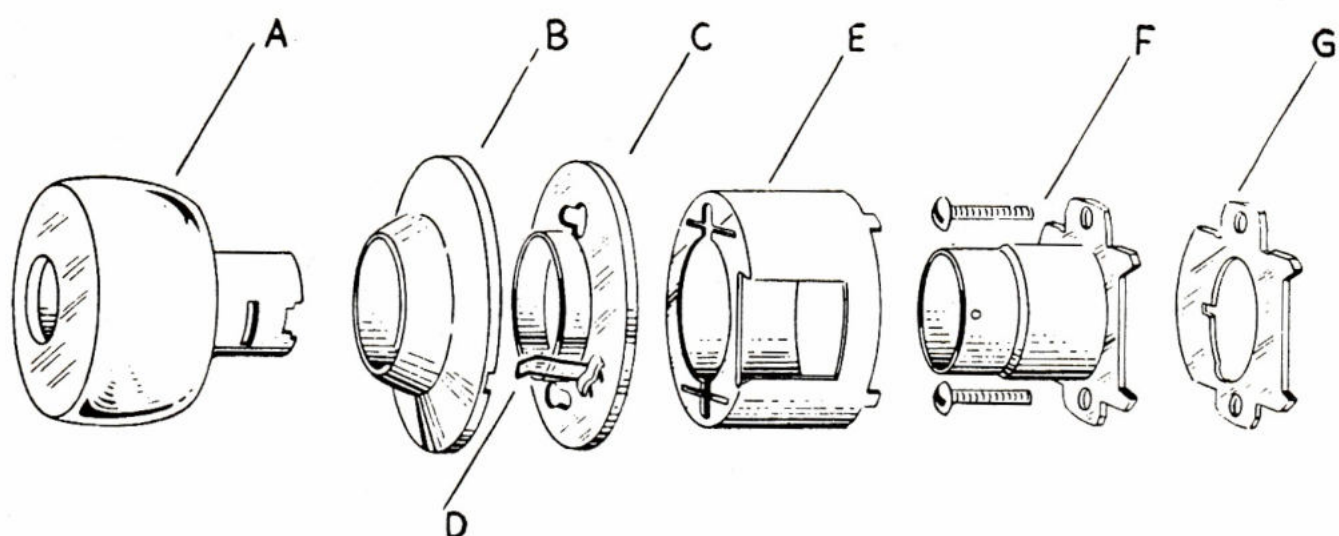


**No. 015**  
Plug bar



**No. 016**  
Plug bar retainer

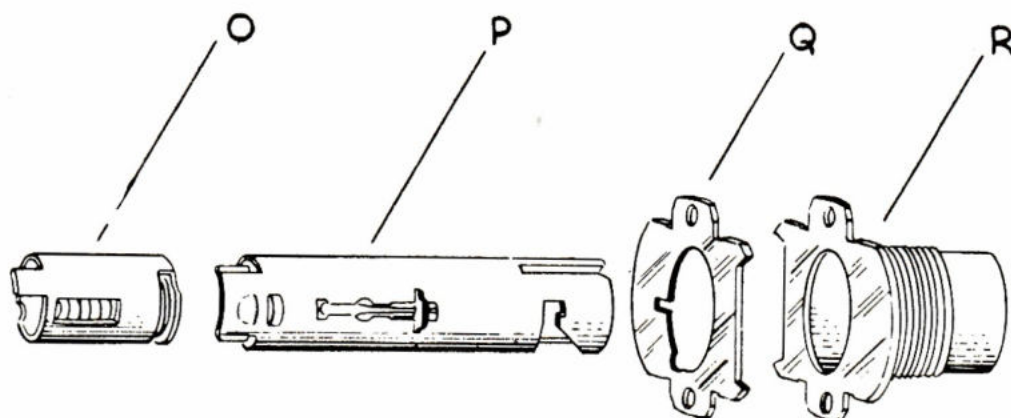


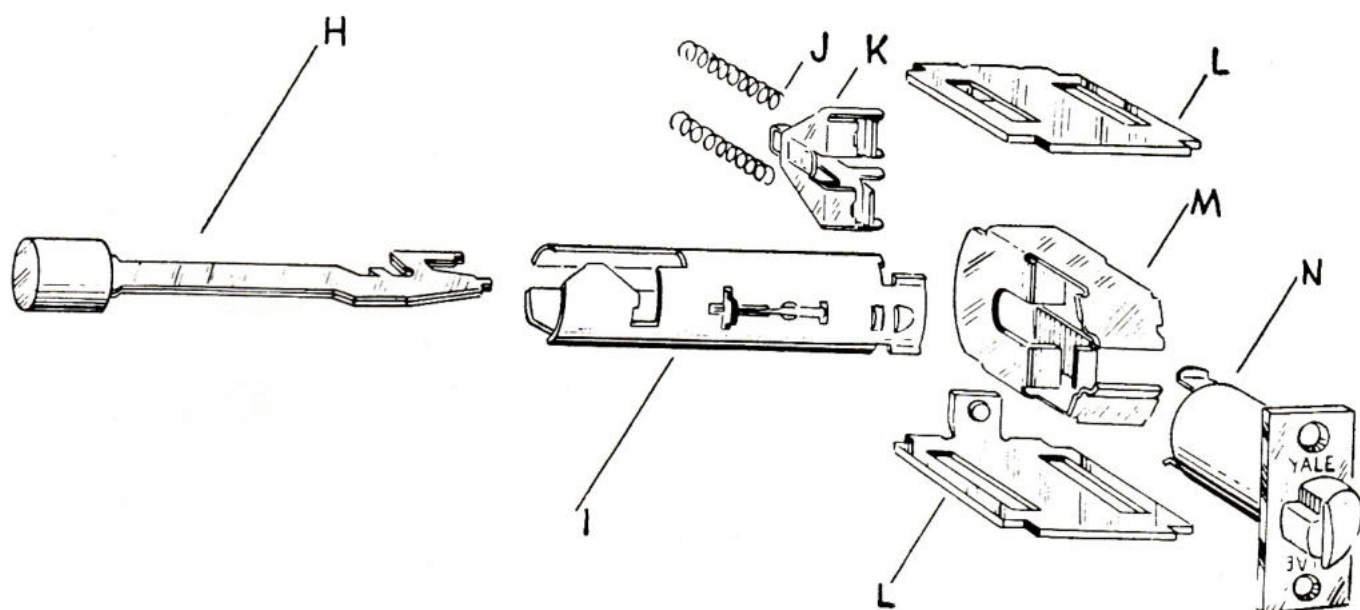


## YALE NO. 5300

manufactured by Yale & Towne Mfg. Co.

- A. Button Knob
- B. Inside Rose
- C. Inside Rose Plate
- D. Anchor Spring to hold Rose against Plate
- E. Case Cover
- F. Inside Sleeve (Knob Bearing)
- G. Fastening Plate
- H. Turn Button Assembly
- I. Tube Spindle
- J. Retractor Springs





K. Centering Piece & Catch (The centering piece prevents excessive side movement of the button stem, thus preventing opening by tapping the knob)

L. Frame Plate

M. Retractor

N. Latchbolt Assembly

O. Release Tube Assembly

P. Tube Spindle

Q. Sleeve Plate

R. Outside Sleeve (Knob Bearing)

S. Outside Rose

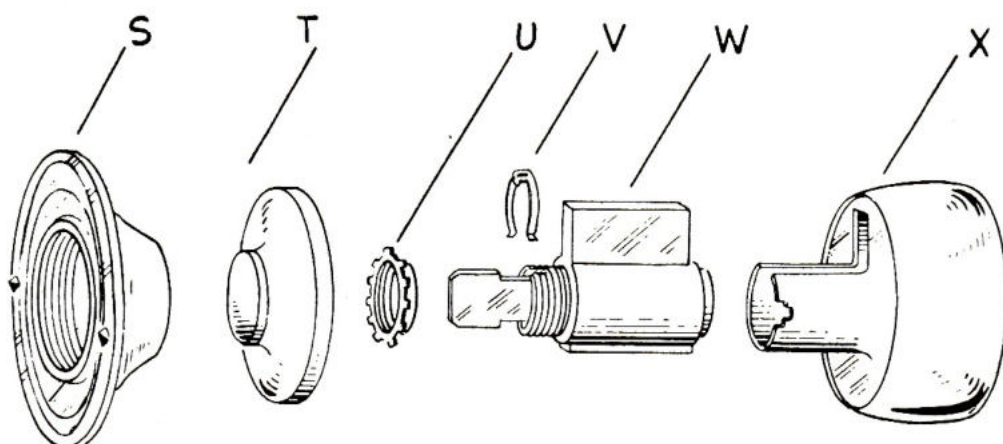
T. Cylinder Knob Cap

U. Castellated Nut

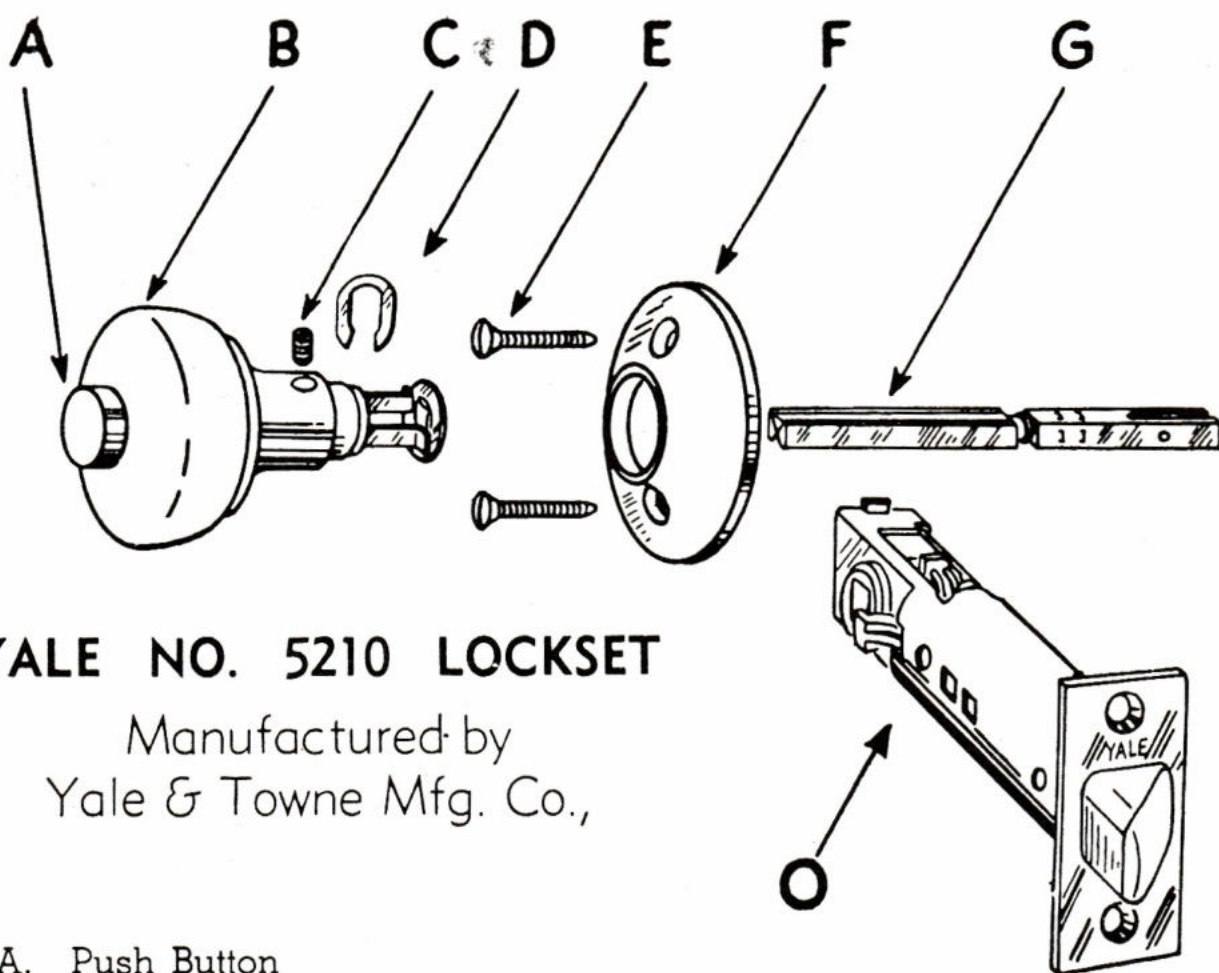
V. Spring Clip

W. Pin Tumbler Cylinder

X. Outside Cylinder Knob







## YALE NO. 5210 LOCKSET

Manufactured by  
Yale & Towne Mfg. Co.,

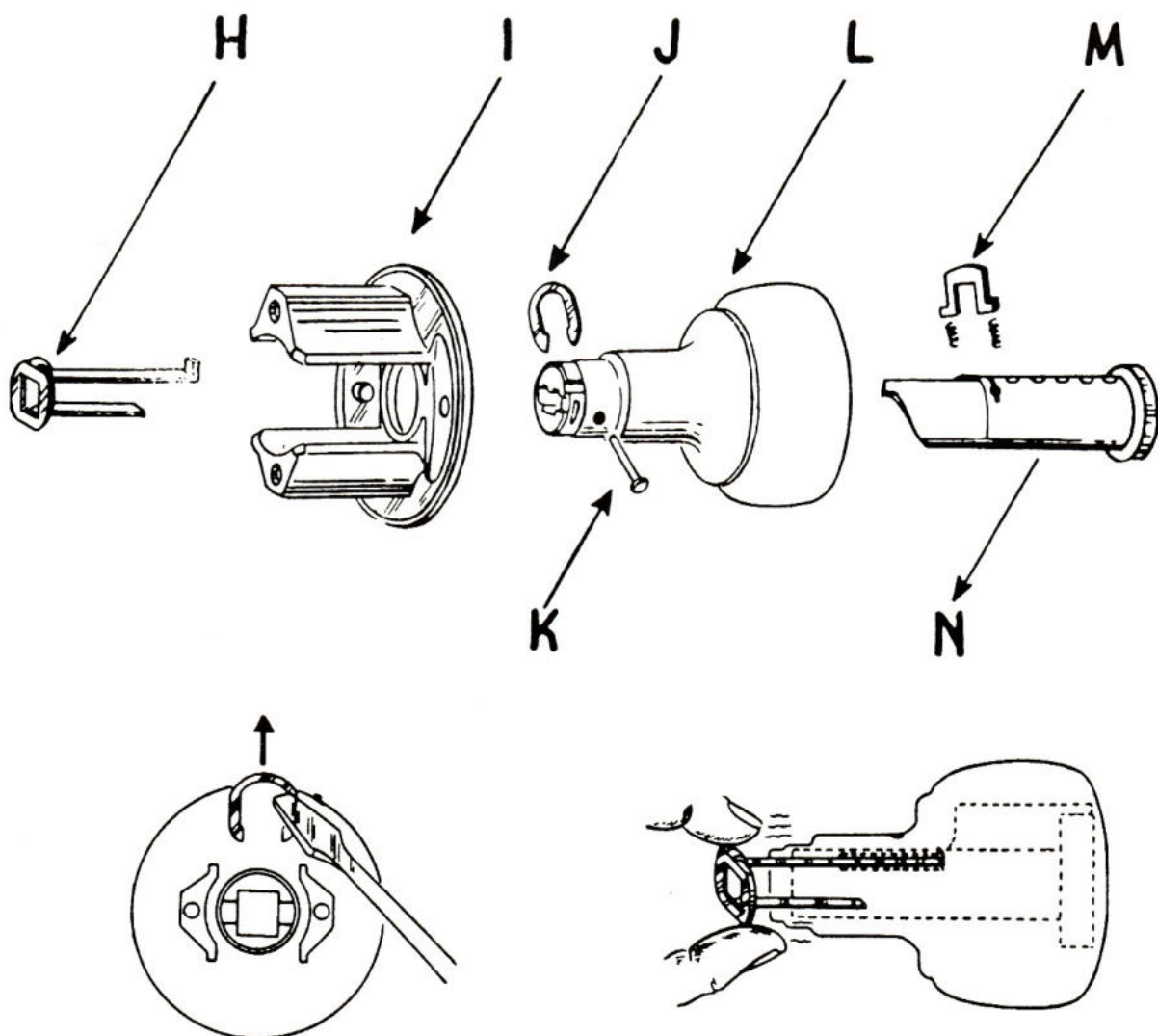
- A. Push Button
- B. Inside Knob
- C. Knob Screw
- D. Knob Retainer Clip
- E. Rose Screws
- F. Inside Rose
- G. Swivel Triplex Spindle
- H. Key Plug Stem (This part is actuated by cam of plug (N) and controls the hub unlocking mechanism in the latch assembly O.)
- I. Outside Rose
- J. Knob Retainer Clip
- K. Spindle Pin
- L. Outside Cylinder Knob
- M. Plug Retainer
- N. Plug
- O. Latch Assembly

### SERVICE NOTES

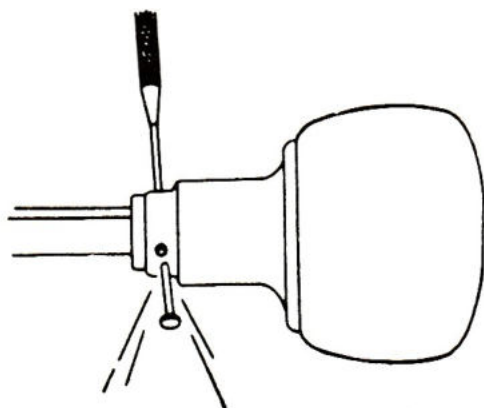
#### Disassembling The Knob Unit

Before you can change the combination, or master key, or key alike the 5210 lock, you must first disassemble the outside knob unit which contains the cylinder. At the beginning of this article, you will see an exploded view of the lockset. All the parts that can be disassembled are shown as individual pieces. The latch assembly (which should not be taken apart) is shown as one unit.

The first step in disassembling the outside knob unit is to slip off the spring retainer. This frees the knob assembly from the rose.



The second step is to remove the pin that fastens the spindle to the knob. Use a thin punch or nail. Pull out the spindle.



Next, remove the key plug stem. Rock it and pull gently until both legs come free.

To remove the plug from the knob, you will need a "follower"

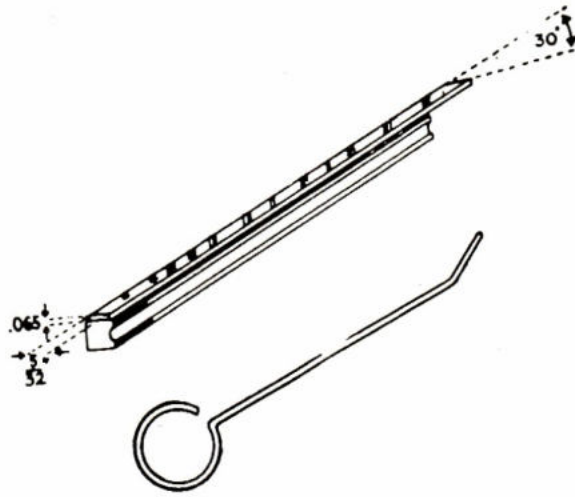
and a stiff piece of wire with one end bent to a 45 degree angle for about one quarter of an inch. These items are available from the factory, but if you don't have them on hand, you can make them easily.

The wire is nothing more than a piece of music wire the diameter of a paper clip. The follower is a combination of an ordinary straight grooved spindle of the type commonly used in mortise locks and a thin piece of steel .065" thick by 3 5/32" wide and about 5/8" longer than the spindle. (You may use ordinary flat spring wire—a standard item in a locksmith shop.) The steel piece is beveled to 30 degrees on one end and clamped, or welded, or pin-

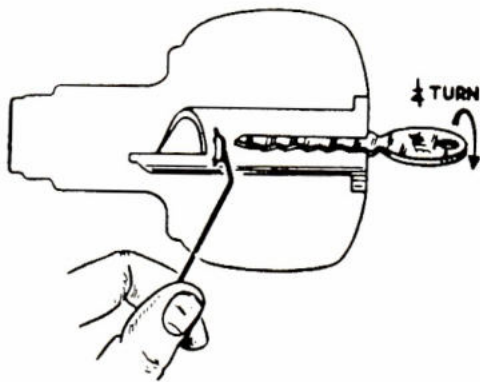


ned on the spindle.

(In an emergency a flat piece of wood may be whittled into a follower!)

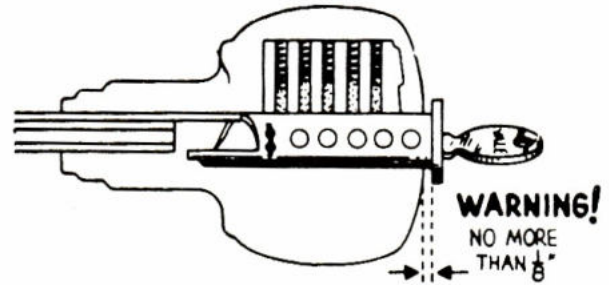


The first steps in removing the plug are to insert the key all the way into the keyway and turn the plug one quarter turn (90°) to the LEFT. Now take the stiff wire and insert it in the small hole in the lower rim of the knob. With a little probing, you will feel another small hole in the inner shell of the knob. You will reach the top of the retainer through this hole. PUSH HARD to depress this retainer.

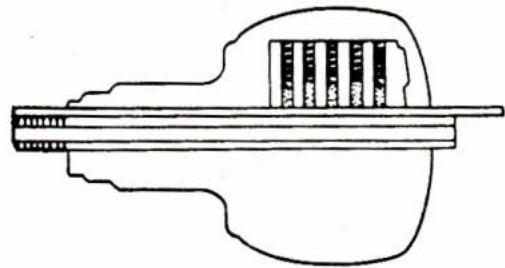


Maintain the pushing pressure on the retainer while pulling on the bow of the key. The plug will start to move out of the knob. CAUTION: DO NOT PULL THE PLUG TOO FAR! THE PLUG

MUST NOT BE PULLED OUT MORE THAN ONE EIGHTH OF AN INCH, OTHERWISE THE UPPER PINS AND SPRINGS WILL SPILL OUT!



When the plug has moved forward one eighth of an inch, insert the 2 piece follower through the rear of the knob and push the plug forward. The follower will keep the upper pins and springs in place.

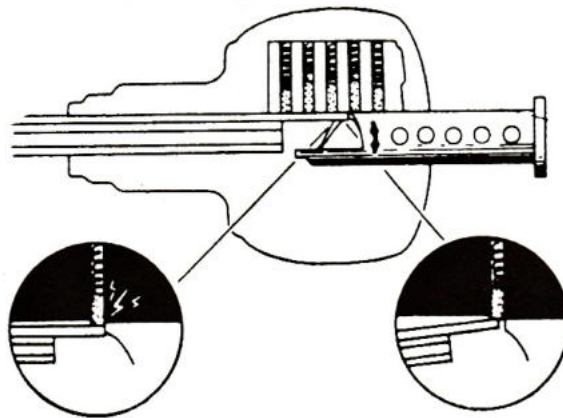


### Replacing The Plug

To replace the plug into the knob, first remove the key. Then, holding the plug in one hand so that the pins will not spill, take the knob in the other hand and hold it so that the retainer hole in the knob is in line with the pin holes of the plug. Now, slip the plug into the knob. Depress the retainer so that it clears the shoulder of the knob.

The cam of the plug will contact the follower. When this happens, the follower will start to push out of the knob. However the pressure of the upper springs and pins tend to push the projecting end of the follower downward. Conse-

quently, the upper pins drop slightly into the plug chamber and block the entrance of the plug. To overcome this, use the follower as a lever and raise the end upward so that the upper edge meets the shear line of the plug. (CAUTION—DO NOT PULL OUT THE FOLLOWER - - - JUST "RAISE" IT.)



While holding the follower in the raised position, push the plug gently into the knob until correctly seated.

The knob assembly can now be reconstructed by inserting the key plug stem, spindle, pin, rose and retainer as indicated by the exploded view.



## STANDARD FINISHES FOR KEY IN THE KNOB LOCKS

Locksmiths should know the standard finishes in which key in the knob locks can be furnished. This information is helpful when the need for replacement of exposed trim arises.

### U.S. STANDARD SYMBOL

### FINISH

U.S. 3	Polished Brass
U.S. 4	Dull Brass
U.S. 5	Dull Brass Oxidized
U.S. 6	Sanded Brass Oxidized
U.S. 8	Antique Copper
U.S. 9	Polished Bronze
U.S. 10	Dull Bronze
U.S. 11	Dull Bronze Oxidized
U.S. 20	Statuary Bronze
U.S. 14	Polished Nickel Plate
U.S. 15	Dull Nickel Plate
U.S. 1B	Japanned
U.S. 1D	Dead Black Japanned
U.S. 18	Genuine Bower Barff
U.S. 19	Imitation Bower Barff
U.S. 22	Verde Antique Green
U.S. 23	Silver Plate Dull Oxidized
U.S. 2H	Hot Galvanized
U.S. 25	White Bronze
U.S. 2G	Electro Galvanized
U.S. 26	Polished Chrome Plate
U.S. 26D	Dull Chrome Plate
U.S. 28	Dull Aluminum

SPECIALS: "Oil Rubbed", Dead Black on Forged Iron, Half Polished Iron, Rusty Iron,

# KEY IN THE KNOB IDENTIFICATION BY TRADE NAME

Salesmen and hardware men are becoming accustomed to referring to certain key in the knob locks by name instead of numbers . The following list will help you quickly identify the product they may be talking about.

<u>Trade Name</u>	<u>Manufacturer</u>
ALIGN A LOCK	Sargent & Co.
CHALLENGER	Challenger Lock Co. (formerly Hollymade)
DEFENDER	Corbin
E-Z-SET	National Hardware Corp.
GUARDIAN	Corbin
HAMPTON	Harloc
HOMEGUARD	Russwin
HOME DUTY	Yale
INTEGRALOCK	Sargent & Co.
OLYMPIC-ROYAL	Vimcar (out of business)
PACEMAKER	Harloc
PRESIDENT	Vimcar (out of business)
REDDI-MOUNT	J. Chesler & Sons
ROYAL	Vimcar ( out of business)
STILEMAKER	Russwin
STILEMANOR	Russwin
SHURLOC	Metallon Products (formerly Technical Glass)
WESLOCK	Western Lock Mfg. Co.

Note: The above names are styles of locks and are not to be confused with designs which are also named by the various manufacturers.



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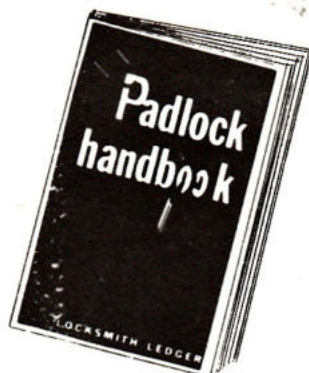
**TB717**

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